Jacobs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, ON

Phase Two Environmental Site Assessment

March 5, 2021

City of Guelph





55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, ON

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Acronyms and Abbreviations

°C degree(s) Celsius

μg/g microgram(s) per gram
μg/L microgram(s) per litre

μm micrometre(s)

Aardvark Drilling Inc.

ABN acid, base, and neutral compound

ALS ALS Canada Limited

APEC area of potential environmental concern
ARA Archeological Research Associates Ltd.

BTEX benzene, toluene, ethylbenzene, and xylenes

CALA Canadian Association for Laboratory Accreditation Inc.

City City of Guelph
cm centimetre(s)

COA certificate of analysis
COC contaminant of concern

COPC contaminant of potential concern

D&F dioxin and furan
DO dissolved oxygen

DQE data quality evaluation EC electrical conductivity

ESA environmental site assessment

eV electron-volt

F fraction

FD field duplicate

FIP fire insurance plan

ha hectare(s)

HWS boron hot-water-soluble boron

ID identification

Jacobs Engineering Group Inc.

K hydraulic conductivity

km kilometre(s)

L litre(s)

LCS laboratory control sample

m metre(s)



m/m metre(s) per metre
m/s metre(s) per second
m/y metre(s) per year

masl metre(s) above sea level

mbgs metre(s) below ground surface

MECP Ontario Ministry of the Environment, Conservation and Parks

mg/L milligram(s) per litre

mm millimetre(s)
MS matrix spike

mS/cm milliSiemen(s) per centimetre
NAPL nonaqueous phase liquid

O. Reg. Ontario Regulation
OnSite OnSite Locates Inc.

ORP other regulated parameter

PAH polycyclic aromatic hydrocarbon
PCA potentially contaminating activity

PCB polychlorinated biphenyl

Phase Two Property 55 Baker Street, 152 Wyndham Street North, 160 Wyndham Street North, and the

(or Site) right-of-way known as Park Lane in Guelph, Ontario

PHC petroleum hydrocarbon
PID photoionization detector

Plan Grand River Source Protection Plan

ppm part(s) per million
PVC polyvinyl chloride
QA quality assurance
QC quality control

QPESA Qualified Person for ESA

RA risk assessment
RL reporting limit

RPD relative percent difference
RSC Record of Site Condition
SAP Sampling and Analysis Plan
SAR sodium adsorption ratio
SCS Site Condition Standard

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Site 55 Baker Street, 152 Wyndham Street North, 160 Wyndham Street North, and the

(or Phase Two Property) right-of-way known as Park Lane in Guelph, Ontario

SOP standard operating procedure

 Table 2 SCS
 Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water

Condition for coarse grained soil and residential/parkland/institutional land use

VOC volatile organic compound

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1. Executive Summary

The City of Guelph (City) retained CH2M HILL Canada Limited (CH2M), now Jacobs Engineering Group Inc. (Jacobs), to provide environmental services for the properties located at 55 Baker Street, 152 Wyndham Street North, 160 Wyndham Street North, and the right-of-way known as Park Lane in Guelph, Ontario (Phase Two Property or Site). Jacobs understands the current plan is to redevelop the Site for a mix of residential, commercial, community, and institutional use.

The Site is in downtown Guelph, southwest of the Speed River (Figures 2-1 and 2-2a). It is approximately 1.14 hectares (ha) in size, is currently used as a commercial parking lot, and includes one laneway. There are no buildings onsite; however, buildings were historically present and associated with the use of portions of the Site for parkland, commercial, and industrial purposes. From approximately 1827 to 1879, the parcel associated with 55 Baker Street was used as a public burial ground (community land use) (Pinchin 2018).

Jacobs developed the field program for the Phase Two Environmental Site Assessment (ESA) based on the results of the Phase One ESA (Pinchin 2018), as well as the results of previous environmental investigations (Kewen 2001; XCG 2008), to provide general spatial coverage across the Site. The field components of the project included utility locates, archaeological clearances, drilling and monitoring well installation, soil and groundwater sampling, surveying, and water level elevation measurements. Jacobs and its subcontractors completed these field components, which are documented in this report.

This report was completed to summarize Phase Two investigations conducted at the Site, and to complete the following tasks:

- Meet current Ontario Regulation (O. Reg.) 153/04 (MECP 2011a), regulatory requirements to support Record of Site Condition (RSC) filing.
- Investigate or further investigate areas of potential environmental concern (APECs) identified during the Phase One ESA (Pinchin 2018).
- Provide data to support a potential risk assessment (RA).

According to Section 168.3.1 of the *Environmental Protection Act* (MECP 1990a), an RSC is required because the land use will be changed from commercial to a mixed land use that includes more sensitive uses (that is, residential or institutional, or both).

To assess the subsurface conditions, Jacobs examined the lithologies recorded from 27 investigative locations (that is, boreholes and monitoring wells) advanced as part of the current Phase Two ESA activities. Geological conditions, as characterized from the dataset at the Phase Two Property, include the following:

- Asphalt at ground surface (extending to 0.15 metres below ground surface [mbgs]).
- Fill materials (mainly sand, sand and gravel or silty sand) to a maximum depth of 3.91 mbgs, with an average thickness of 1.87 metres (m).
- Native overburden (sand) that exists roughly from the bottom of fill to the bedrock, with interbedded layers
 of gravel and silt.
 - A silt layer was encountered in the northern portion of the Site. The depth to silt ranged from 2.13 to 3.94 mbgs and the average thickness of the layer was 3.58 m. In most locations where the silt was encountered, it underlay a layer of sand and directly overlies bedrock.
 - A small silt lens, observed in the southern portion of the Site, was disconnected from the larger silt layer in the northern portion of the Site. The depth to this silt layer ranged from 2.21 to 3.72 mbgs, with an average thickness of 1.37 m.



- A gravel and sand layer was encountered in the southern portion of the Site. The depth to this gravel and sand layer ranged from 1.52 to 5.94 mbgs, and the average thickness of the layer was 2.16 m. Generally, the sand and gravel extends to the bedrock, but in the southeastern portion of the Site it terminates above a layer of sand.
- A clay lens was encountered in the middle of the Site (MW109). The clay was encountered from 1.14 to 2.44 mbgs, which is generally consistent with the depth of the fill layer and is expected to be very small laterally.
- Guelph Formation dolostone with a top of bedrock contact ranging from 4.57 to 8.46 mbgs (average depth at 5.99 mbgs); the bedrock was described as being highly weathered and fractured within the first 0.3 to 0.6 m, and was noted to be vuggy, with calcite mineralization.

Local groundwater is expected to flow eastward, toward the Speed River. The Site-specific groundwater was interpreted to flow radially, from a high elevation on the western boundary of the Site towards the north, and east to southeast. The higher groundwater elevations at the western portion of the Site appear to be correlated with higher bedrock elevation. Perched groundwater is also observed at the northern end of the Site, above the low-permeability silt aquitard layer. The full extent of the perched groundwater is currently not fully understood but may have a similar extent to the silt layer.

Based on the available information, Jacobs selected the Table 2 Site Condition Standards (Table 2 SCS), as outlined in the Ontario Ministry of the Environment, Conservation and Parks' (MECP's) *Soil, Groundwater, and Sediment Standards* for Use under Part XV.1 of the *Environmental Protection Act* adopted under Ontario Regulation 153/04 (MECP 2011c) for a potable groundwater, residential/parkland/institutional property use for coarse-textured soil to apply to the Site.

Most of the soil beneath the Phase Two Property was found to be impacted with salt-related parameters (electrical conductivity [EC] and sodium adsorption ration [SAR] in soil; and sodium and chloride in groundwater). Limited localized metal impacts were also present (lead and mercury in soil; cadmium in groundwater).

The presence of elevated EC and SAR in soil and sodium, as well as chloride in groundwater, is widespread across most of the Site and is interpreted to be related to the application of deicing materials on the parking lot surfaces (APEC-4). Section 49.1 of O. Reg. 153/104 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Environmental Protection Act when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice, or both, exceeds the SCS. Therefore, at the discretion of the Qualified Person for Environmental Site Assessment (QPESA) and based on the revised regulation, these parameters were not considered to be contaminants of concern (COCs) at the Phase Two Property.

Metals exceedances in soil were identified in the southeastern portion of the Phase Two Property at one location (MW101), and were limited to lead and mercury. These impacts are likely limited to the fill in the existing laneways, based on results and observations during drilling and test-pitting activities, and extend to an estimated maximum of 3.0 mbgs based on fill depth in this area. The poor-quality fill was not observed at other locations.

Metals exceedances in groundwater were limited to cadmium. Cadmium exceedances were noted in two monitoring wells along the western property boundary (MW107 and MW113) with maximum concentrations found at MW113 screened in the bedrock aquifer (at 5.3 to 8.4 mbgs). The cadmium exceedances at these locations were not shown to extend vertically to MW107B (screened in the deep bedrock, at 13.7 to 15.5 mbgs). Groundwater moves from these locations towards the southeastern portion of the Site. Sampling results from downgradient wells from the identified cadmium exceedances (MW110A and MW101, both less than the Table 2 SCS) indicate the cadmium impacts in groundwater are not anticipated to migrate offsite. Cadmium impacts may



be related to the APECs associated with offsite and upgradient potentially contaminating activities (to the west) (for example, APEC-11 for Industrial Operations and APEC-12 for Historical Automotive Garage) or other unknown sources.

Based on extensive sampling over the Phase Two Property, it has been concluded that the horizontal and vertical extents of soil and groundwater impacts have been sufficiently defined for Phase Two purposes, as well as to support the RA and evaluation of risk management measures.

Jacobs completed an RA (Jacobs 2020) to assess the existing concentrations of COCs on Site, develop property-specific standards, and determine what risk management measures would need to be implemented. The RA (MGRA1896-20, IDS# 7882-BRYP6L) was accepted by the MECP on December 21, 2020.

Based on the results of the Phase Two ESA, as of the certification date of April 29, 2020, the concentrations of contaminants in soil and groundwater at the Phase Two Property meet the property-specific standards as defined in the RA (Jacobs 2020). An RSC can be developed and submitted to the MECP, to permit the proposed change in land use for the Site.



2. Introduction

The City of Guelph (City) retained Jacobs Engineering Group Inc. (Jacobs), to provide environmental services for the properties located at 55 Baker Street, 160 Wyndham Street North (including the former 152 Wyndham Street North), and the right-of-way known as Park Lane in Guelph, Ontario (Phase Two Property or Site) (Figure 2-1).

The Site is in downtown Guelph, southwest of the Speed River (Figure 2-1). The Site is approximately 1.14 hectares (ha) and is currently in use as a commercial parking lot and one laneway. There are no buildings onsite; however, buildings were historically present and associated with the use of portions of the Site for parkland, commercial, and industrial purposes. Figures 2-2a and 2-2b show building outlines and identified utilities, respectively, on the Phase Two Property. From approximately 1827 to 1879 the parcel associated with 55 Baker Street was used a public burial ground (community land use) (Pinchin 2018).

The Site underwent various subsurface environmental investigations between 1993 and 2019. The objectives of the Phase Two Environmental Site Assessment (ESA) are to:

- Meet current Ontario Regulation (O. Reg.) 153/04, (MECP, 2011a), regulatory requirements to support Record of Site Condition (RSC) filing.
- Investigate or further investigate areas of potential environmental concern (APECs) identified during the Phase One ESA (Pinchin 2018).
- Provide data to support a potential risk assessment (RA).

This report is also intended to support the future redevelopment of the Phase Two Property. Jacobs understands the current plan is to redevelop the Site for a mix of residential, commercial, community, and institutional use (City 2019).

2.1 Site Description

The Phase Two Property is approximately 1.14 ha, and is surrounded by a mix of commercial, institutional, and residential land uses. The Site is south of Woolwich Street, east of Baker Street, north of Quebec Street, and west of Wyndham Street North. Exhibit 2-1 identifies the municipal address, property identifier numbers, and legal descriptions of the parcels that form part of the Phase Two Property.

Exhibit 2-1. Property Information

Municipal Address	Property Identification Number	Legal Description
55 Baker Street	71287-0119 (LT) ^a	Part Burying Ground; Plan 8; Part Lane through Burying Ground; Plan 8, Closed by MS80255; as in MS78644, MS20082, CS58221; subject to Interest, if any, in CS58221; Part Burying Ground, Plan 8 as in CS51962; City of Guelph
N/A (Park Lane)	71287-0099 (LT)	Unnamed Lane, Plan 8, (AKA Park Lane, Plan 8) lying south of Part Closed by CS31228, Save and Except RO755787, ROS546721 & ROS220056; Guelph



Exhibit 2-1. Property Information

Municipal Address	Property Identification Number	Legal Description
160 Wyndham Street North (includes former 152 Wyndham Street North)	71287-0118 ^b	Part Lots 73 And 74, Part of Burying Ground and Part of Lane at the rear of Lots 73 And 74 (aka Park Lane), Closed by CS31228, Plan 8, Designated as Parts 1, 2, 3 and 4, Reference Plan 61R-21815, subject to and together with ROS557919 and ROS573090, City of Guelph

Notes:

N/A = not applicable

Appendix A includes the Plan of Survey for the Site.

2.2 Property Ownership

The City currently owns the Phase Two Property; Exhibit 2-2 presents contact information for the owner.

Exhibit 2-2. Contact Information for Owner of Phase Two Property

Agency	Role	Contact Information
City of Guelph	Owner Representative	Prasoon Adhikari, M.Sc., P.Eng., PMP Environmental Engineer City of Guelph, Engineering and Transportation Services, Infrastructure, Development and Environmental Engineering 1 Carden Street Guelph, Ontario, N1H 3A1 Ph: 519.822.1260 ext. 2946 Email: Prasoon.Adhikari@guelph.ca

2.3 Current and Proposed Future Uses

The Phase One ESA (Pinchin 2018) provides current and historical information about the Phase Two Property. The Site currently consists of a paved municipal parking lot and a paved laneway. Most of the Site is currently operating as a paid parking lot. Jacobs understands the current plan is to redevelop the Site for a mix of residential, commercial, community, and institutional use.

According to Section 168.3.1 of the *Environmental Protection Act* (MECP 1990a), an RSC is required because the land use will be changed from commercial to a mixed land use that includes more sensitive uses (that is, residential or institutional, or both).

^a Recently consolidated from former PIN numbers 712870038 (LT) and 71287-0058 (LT)

^b Recently consolidated from former PIN numbers 712870044 (LT) and 712870045 (LT); the latter being associated with former municipal address 152 Wyndham Street North



2.4 Applicable Site Condition Standards

O. Reg. 153/04 (MECP 2011a), under Part XV.1 of the *Environmental Protection Act*, addresses the assessment, cleanup, and filing of an RSC for brownfield sites in Ontario and applies to the Phase Two Property. Jacobs evaluated the Site based on several criteria to decide which of the generic standards in the Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act* (MECP 2011b) applied for a comparison of soil and groundwater results from the Phase Two ESA investigation.

The items in Exhibit 2-3 were considered during the selection of the standards, as outlined in O. Reg. 153/04 (MECP 2011a).

Exhibit 2-3. Items Considered for Site Condition Standards Selection

Condition	Evaluation
Land use	The current land use is commercial and community. The proposed future land use is a mix of residential, commercial, community, and institutional.
Potable or non-potable groundwater	The Site and adjacent properties within 250 m are serviced by a municipal water source. However, as the City relies on groundwater for its water supply (City 2018), the potable groundwater condition will be applied.
Proximity to surface water body	No waterbodies are located on the Site. The Speed River is the nearest downgradient waterbody, and is located approximately 130 m northeast of the Site.
Proximity to areas of natural significance or environmentally sensitive areas	The Site is not considered an area of natural significance or to be within the proximity of an area of natural significance, based on the information reviewed as part of the Phase One ESA (Pinchin 2018, Jacobs 2021).
Depth to bedrock	A property is considered a shallow soil property if one-third or more of the area consists of soil depths of 2 mbgs or less, excluding nonsoil surface treatment (that is, asphalt, concrete, or aggregate) (MECP 2011a). The depth to bedrock is greater than 2 m, as bedrock was encountered between 4.93 mbgs and 8.43 mbgs.
pH of soil	Jacobs' investigations included 45 soil samples analyzed for pH from 17 locations across the Phase Two Property and reported soil pH ranged from 7.37 to 9.46 (Figure 2-3). Soil pH was within the MECP's acceptable range for samples collected in both surface soil (from between surface and 1.5 mbgs, with a pH value in surface soil less than 5 or greater than 9) and subsurface soil (more than 1.5 mbgs with a pH value in subsurface soil less than 5 or greater than 11).
	Historical investigations identified elevated pH (greater than 9) in surface soil; however, many of the borehole logs reported brick fragments or concrete present in the soil descriptions where samples with elevated pH were collected. This information suggests that nonsoil materials may have been sampled, potentially biasing the historical soil pH results. Therefore, the historical results may not be representative of actual soil pH conditions.
	Considering this information, Jacobs has relied solely on the soil pH data collected during recent investigation to determine the applicable SCS for soil pH. On this basis, soil pH is within the MECP's acceptable range.



Exhibit 2-3. Items Considered for Site Condition Standards Selection

Condition	Evaluation	
Soil texture	The soil condition standards for coarse-grained soils were used, based on the grain-size results, to be conservative and to account for the extensive presence of heterogeneous fill materials across the surface of the Site.	

Notes:

m = metre(s)

mbgs = metre(s) below ground surface

MECP = Ontario Ministry of the Environment, Conservation and Parks

SCS = Site Condition Standard

Based on this information, which has been reviewed by the Qualified Person for ESA (QPESA), the Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for coarse grained soil and residential/parkland/institutional land use (Table 2 SCS), as outlined in the MECP's Soil, Groundwater, and Sediment Standards for use under Part XV.1 of the Environmental Protection Act adopted under O. Reg. 153/04 (MECP 2011b) was applied to the Site.



3. Background Information

3.1 Physical Setting

The topography over most of the Phase Two Property is moderately flat, with ground surface elevations ranging from 328.34 metres above sea level (masl) (MW113) at the southwestern corner of the Site to 330.16 masl (BH201) in the west. The Site slopes slightly from the western border towards the south, north, and east. Surface runoff at the Phase Two Property is expected to flow radially from the west in these directions, but is directed towards onsite catchbasins. Figure 3-1 shows the regional topography and surface water drainage features.

The Phase Two Property is not within 30 m of a water body. The Speed River is the nearest downgradient waterbody, approximately 130 to 150 m north-northeast of the Site, and ground surface tends to slope north towards the river. Groundwater from the region is likely to eventually discharge to Speed River. Based on the information reviewed as part of the Phase One ESA (Pinchin 2018, Jacobs 2021), the Site is not considered part of an area of natural significance or to be within the proximity of an area of natural significance.

The City categorizes regions of Guelph within Wellhead Protection Areas (City 2012). The Site is within Wellhead Protection Area B (2-year travel time) for several of the City's municipal water supply wells.

The nearest municipal groundwater supply wells to the Site include the Water Street, Edinburgh, Membro, and Dean Wells (approximately 1.4 to 2.0 kilometres [km] south of the Site past the Eramosa River), and the Park and Emma Wells (approximately 1.3 to 1.5 km north of the Site past the Speed River).

The municipal groundwater resource is drawn primarily from the Gasport Formation, estimated to occur at least 45 mbgs. A lower-permeability Reformatory Member and Vinemount Member of the Eramosa Formation are generally understood to serve as a regional aquitard, situated above the Gasport and limestone formations of the Goat Island Formation (Brunton 2009). The source of some of the water in the Gasport Formation is through slow recharge across the aquitard from the shallow bedrock groundwater.

The City is also part of the Grand River Source Protection Plan (Plan) (Lake Erie Region Source Protection Committee 2019). The Plan assigns Drinking Water Threat Vulnerability Scores across the region based on various risk factors, and the Phase Two Property is assigned a Vulnerability Score of 10, the highest possible. According to the Plan mapping (Figure 3-2), the Site is also in a highly vulnerable aquifer and issues-contributing area, but is not in a significant groundwater recharge area or in a source water intake protection zone.

3.2 Past Investigations

Before the current Phase Two investigation, three subsurface investigations took place at the Site in 1993 (XCG), 2001 (Kewen), and 2008 (XCG). Table 3-1 summarizes the following tasks associated with each investigation:

- Completion of field program associated with each historical subsurface investigation, including the analyses conducted in soil, groundwater, or both.
- Comparison of the historical subsurface investigation results to the current SCS.
- Evaluation of whether data or information from the historical subsurface investigation are considered reliable for inclusion in the current Phase Two ESA for RSC purposes.
- Completion of tasks to confirm or update data or information not considered reliable.



In general, Jacobs noted the following observations during this evaluation:

- Parameters, such as benzene, toluene, ethylbenzene, and xylenes (BTEX); and volatile organic compounds (VOCs), were characterized more adequately by current standards, using appropriate sample collection and laboratory analysis methods. BTEX and VOC analyses from before 2004 are considered unreliable because of changes in analytical methods.
- Historical laboratory scans for metals did not include complete parameter group analyses in accordance with the current requirements of O. Reg. 153/04. Missing metal parameters have the potential to be contaminants of concern (COCs) on the Site.
- Groundwater concentrations older than 10 years from the commencement of the Phase Two ESA activities were considered not representative of current conditions.
- The results from previous investigations in areas reported to be remediated (specifically, polychlorinated biphenyls [PCBs] in the transformer area) may not represent current conditions.

Where these observations were noted, a portion of the historical data could not be fully relied upon to reflect current environmental conditions at the Site. Therefore, Jacobs used these data for screening purposes during the Phase Two ESA to focus on certain areas to resample and assess the possible presence of contaminants (refer to Section 6.6). The screening data were not used in the final Phase Two ESA dataset to confirm concentrations meeting the applicable standards in APECs, nor were they used to confirm maximum concentrations on the Phase Two Property.

As Table 3-1 specifies, the following soil and groundwater data from the historical investigations were unreliable for RSC purposes:

- Elevated concentrations of PCBs in the former transformer area (XCG 1993) had been reported by Kewen (2001) to have been remediated in 1998. Documentation, including the confirmatory sampling of these activities, was not provided to Jacobs. The 1993 PCB data were therefore excluded from the Phase Two ESA dataset, but used for the focus of the Phase Two ESA investigations (the location was resampled in November 2019).
- Soil data from 2001 (Kewen 2001) are not considered valid for RSC purposes due to historical laboratory methods and incomplete parameter group analyses. Data were used for screening purposes for the Phase Two ESA investigations, and areas of historical impacts were resampled to confirm the presence or absence of contaminants.
- Soil pH data from the XCG (2008) investigation were not considered valid, because a review of borehole logs indicates concrete or brick fragments may have been included in soil samples submitted for pH. Therefore, soil pH results may be biased high and not representative of actual conditions. Additional soil analysis across the Site for pH was included as part of the Phase Two ESA investigations.
- Historical groundwater data (Kewen 2001; XCG 2008) were not considered representative of current Site
 conditions and, therefore, not reliable for RSC purposes. Additional groundwater sampling was conducted
 across the Site as part of the current investigation, including areas where historical groundwater
 exceedances were reported.

The soil data from the XCG (2008) investigation are considered valid for RSC purposes. Sampling and laboratory analyses were conducted in accordance with the requirements of O. Reg. 153/04 at the time, which did not include uranium. Uranium has not been specifically identified as a COC for the Site; as such, the remaining metals analyses from the XCG (2008) investigation are considered usable and reliable. Additional soil sampling for metals, including uranium, took place across the Site as part of the Phase Two ESA investigation.



4. Scope of Investigation

4.1 Overview of Site Investigation

Jacobs conducted Phase Two ESA field activities between July 2019 and April 2020 to evaluate the subsurface environmental conditions at the Phase Two Property, and to investigate the APECs identified in the Phase One ESA (Pinchin 2018). As part of the Phase One ESA, Pinchin identified areas where potentially contaminating activities (PCAs) have occurred on the Phase Two Property and on lands within 250 m of the Phase Two Property. PCAs occurring on the Phase Two Property were subsequently carried through the investigation as APECs, as required by O. Reg. 153/04. Jacobs has reinterpreted some of the APECs identified by Pinchin and also identified additional APECs based on a review of fire insurance plans (FIPs). These changes were documented in an update to the Phase One ESA report (Jacobs 2021), completed to support RSC filing. Further details on the PCAs and APECs are provided in Section 6.10.

The Pinchin (2018) Phase One ESA and Jacob (2021) Phase One ESA Update identified 22 APECs on the Phase Two Property, eight of which are attributed to onsite PCAs and 14 which are attributed to offsite PCAs. These APECs and PCAs were the focus of the Phase Two ESA activities. Figures 4-1a and 4-1b show the onsite and offsite PCAs, respectively, along with the resulting APECs on the Phase Two Property. Figure 4-2 shows the APECs identified in the Phase One ESA for the Phase Two Property, as well as the Phase Two ESA investigation locations.

The principal objective of the Phase Two ESA is to enable the assessment and update of current Site conditions, to identify general and current subsurface impacts that will need to be managed during Site redevelopment. The Phase Two ESA activities included the following main tasks:

- Arrange for public and private underground utility locates.
- Arrange for related to the historical use of the Site as a burial ground.
- Develop a Sampling and Analysis Plan (SAP) based on Phase One ESA findings and historical subsurface investigations.
- Drill boreholes during several field events:
 - July to August 2019 Jacobs advanced 17 boreholes (BH200 through BH206 and MW100, MW101, MW102A, MW102B, MW103 through MW105, and MW107 through MW109) to a maximum depth of 13.64 mbgs. Soil samples were collected for chemical analysis. Ten boreholes were completed as monitoring wells.
 - September to December 2019 Jacobs advanced eight boreholes (BH208 through BH211 and MW107B, MW110A, MW110B, MW111) to a maximum depth of 15.54 mbgs. Soil samples were collected from 5 of the locations. Four boreholes were completed as monitoring wells.
 - April 2020 Jacobs advanced two boreholes (BH2017 and MW113) to a maximum depth of 8.38 mbgs. Soil samples were collected and one borehole was completed as a monitoring well.
- Collect at least two rounds of groundwater samples from the newly installed monitoring wells for COCs to address identified APECs.
- Conduct single-well hydraulic tests on five monitoring wells to improve the understanding of the subsurface materials' hydraulic properties across the Phase Two Property.
- Determine the applicable SCS.
- Survey the monitoring wells to a geodetic benchmark.



Figure 4-2 shows the locations of the borings and wells advanced as part of this Phase Two ESA, as well as during historical investigations. The results of historical environmental studies were used as a screening method to focus the current Phase Two ESA work. Where reliable (refer to Section 3.2), the historical results were used to supplement the Phase Two ESA results. In general, the historical soil data from 2008 were considered valid for inclusion in this Phase Two ESA.

4.2 Media Investigated

Soil and groundwater were the only media investigated during this Phase Two ESA work. The investigation of sediment was not applicable due to the absence of surface water bodies on the Site.

Soil quality at the Site was determined using various sampling techniques, including test-pitting and conventional hollow-stem drilling methods. The selected method was determined based on sample depth, likely subsurface conditions, overhead access, and space for drilling equipment. Section 5 provides further detail regarding soil sampling methods. Section 6 provides soil sampling results.

Groundwater samples from newly installed monitoring wells, as well as existing monitoring wells, were collected and submitted for analysis. The sampling method for groundwater used low-flow purging and sampling techniques (for example, peristaltic pump, water quality meter, and dedicated tubing) based on the turbidity of the samples and analysis required. Section 5 provides further detail regarding groundwater sampling methods. Section 6 provides results of the groundwater sampling.

4.3 Phase One Site Conceptual Model

Table 4-1 summarizes the Phase One conceptual site model from the Pinchin (2018) Phase One ESA, supplemented with additional information from Jacobs. An update to the Phase One ESA will be required before the RSC is filed. Table 4-2 summarizes the identified APECs and the COCs associated with each APEC used as the basis for the Phase Two ESA investigation.

4.4 Deviations from Sampling and Analysis Plan

Before the investigation at the Phase Two Property was completed, a detailed SAP was prepared. Appendix B provides the SAP that applies to the work Jacobs has completed at the Site. No deviations occurred from the project SAP over the course of the Phase Two ESA activities.

4.5 Impediments

The main impediment during the Phase Two ESA was the presence of utilities, both overhead and underground, in areas where borings and wells were planned. As such, borehole and monitoring well locations were adjusted to maintain safe distances from overhead power and cable lines, and underground sanitary and storm sewer locations. Figure 2-2b shows identified utilities on the Phase Two Property. However, all borings and wells were installed in the areas where sampling was planned.

In addition, as the Site is an active parking lot, including laneways, managing vehicle traffic required additional planning during the investigation; however, all planned investigation locations was completed.



5. Investigation Method

5.1 General

Various environmental field and subsurface investigation methods were used to assess soil and groundwater quality during the Phase Two ESA, including:

- Test pits for archeological investigation and soil sampling, including field screening measurements and observations
- Drilling with soil sampling, including field screening measurements and observations
- Installing groundwater monitoring wells and groundwater sampling
- Analytical testing of soil and groundwater samples
- Managing investigation-derived waste
- Implementing quality assurance (QA) and quality control (QC) measures, including the collection and analysis of field duplicate (FD) and trip blank samples

The Phase Two ESA activities were guided by individual SAPs for each investigation (Appendix B). The SAP was designed to investigate the contaminants of potential concern (COPCs) within of the APECs identified as a part of the Phase One ESA (Pinchin 2018) review.

Figure 4-2 shows the sampling locations associated with the Phase Two investigation.

Jacobs retained third-party contractors to conduct or assist with field investigations. Jacobs field staff, under the direction of the project QPESA, supervised field activities and recorded field activities, soil characteristics, groundwater sampling results, and other general field investigation notes.

Jacobs developed standard operating procedures (SOPs) and field forms to comply with O. Reg. 153/04 (MECP 2011a). The SOPs guided Jacobs staff in conducting, performing, and documenting Phase Two ESA investigative work. The following is a list of Jacobs SOPs relevant to the Phase Two ESA activities at the Site:

- Decontamination of Heavy Equipment
- Decontamination of Field Sampling Equipment
- Logging of Soil Borings
- Measurement of Soil Vapour Headspace
- Soil Sampling for VOCs using Methanol Preservation
- Installation of Shallow Monitoring Wells
- Water Level Measurements
- Aquifer Testing Slug Tests
- Monitoring Well Development
- Groundwater Purging and Measurement of Field Parameters
- Low Flow Groundwater Purging and Sampling
- Sample Packaging, Storage, and Transport to Laboratory

The methods employed did not deviate from the SOPs and are described in detail in the following subsections.

5.2 Drilling and Excavating

Before drilling activities, borehole and monitoring well locations required archeological clearance of the upper soils to confirm the absence of items of archeological significance. As areas of the Site had previously been used



as a burial ground, the clearances were required to confirm human remains or artifacts were not present in the drilling locations before drilling activities. Archeological Research Associates Ltd. (ARA) was present onsite to complete the archeological investigation alongside Jacobs staff who collected samples of the fill (and upper native soils, where present) during excavations. ARA prepared a report noting the items found during the archeological excavations and clearing the locations for further drilling work (ARA 2020).

Drilling was conducted at the Site to facilitate the evaluation of subsurface conditions via the collection of environmental samples. Jacobs retained Aardvark Drilling Inc. (Aardvark) of Guelph, Ontario, to undertake drilling activities at the Site for the field program. Aardvark is an MECP-licensed driller. A CME truck-mounted hollow-stem auger rig was used to advance boreholes. Drilling activities were completed under the supervision of Jacobs field personnel. The frequency of soil sample collection for field screening and for submission for chemical analysis is detailed on the borehole logs included in Appendix C. All drilling equipment was decontaminated in accordance with the SOPs.

5.2.1 Utility Locates

Before excavation and drilling activities began for each field event, Jacobs contacted Ontario One Call to arrange clearances of public utility services, including:

- Telephone
- Cable television
- Natural gas
- Hydroelectricity
- Water
- Sanitary lines
- Storm sewers

As an additional precaution, Jacobs also retained OnSite Locates Inc. (OnSite), a private utility contractor located in Newmarket, Ontario, to clear all proposed drilling locations of the same private utility services by using radio detection and electrical isolation for utilities. The resulting locate clearance documents were retained at the Site by Jacobs for the duration of the drilling activities.

5.3 Soil Sampling

Archeological test pits were advanced using a Case 580 backhoe to varying depths at the discretion of ARA representatives. Test pits ranged from approximately 1.0 to 2.2 mbgs. Soils from the test pits were excavated on a layer-by-layer basis to allow for proper sample collection and documentation. Test pits were backfilled, soils compacted, and areas asphalted before drilling. Care was taken to place soils back into the test pit in reverse order of how they were removed. Soil documentation and sampling was completed using the same methods of collection as the drilling investigation.

Soil borings were advanced using a hollow-stem auger CME rig. Boreholes were advanced to bedrock, and rock coring was completed to facilitate monitoring well installation. Final borehole depths completed across the Site were variable and ranged between 4.72 and 13.94 mbgs. Final depths depended on the actual subsurface conditions encountered at the time of drilling.

During the advancement of each soil boring using hollow stem auger methods, samples were collected using 0.61-m-long, 50-millimetre (mm)-outside-diameter split-spoon samplers.

Once the soil sample sleeve was extracted from the hollow-stem auger, a drilling contractor representative opened the split spoon to expose the soil. Once a new soil layer was exposed during excavation, the operator



collected a bucket of soil from the new layer to be examined and sampled. The soil was then examined in the field by Jacobs field staff for:

- Soil type
- Discolouration
- Olfactory evidence or signs of impacts
- General soil properties

Soil samples to be analyzed for petroleum hydrocarbon (PHC) Fraction (F)1 or F2, VOCs, or BTEX were collected using laboratory-supplied soil syringes; the soil core was then placed in vials containing methanol. New, disposable nitrile gloves were used when handling samples from different depths at the same sample location to minimize the potential for sample cross-contamination.

The following soil types were identified during the investigation:

- Fill
- Sand with silt
- Sand
- Sand and gravel
- Silty sand and sandy silt
- Gravelly silty sand
- Clayey sandy silt till

Appendix C provides borehole logs. These logs provide a geological description of overburden samples collected during the investigation.

Collected soil samples were split for field screening and potential laboratory analysis. Field screening was conducted as described in Section 5.4.

5.4 Field Screening Measurements

Collected samples were divided into two portions: one for field vapour screening and the other for laboratory submission (which were immediately placed in the appropriate laboratory-supplied sample containers). The soil samples for field vapour screening were placed in a clean, self-sealing, plastic bag, labelled, and set aside to equilibrate to approximately 15 degrees Celsius (°C) for conducting head space screening using a MiniRAE 3000 photoionization detector (PID). Soil vapour headspace and ambient measurements, as well as instrument calibration, were performed per the SOP.

The frequency of field screening measurements during the intrusive drilling investigation was typically at 0.6-m intervals. During the archeological test pits, field screening measurements were collected at a frequency of at least one per material type. Frequency and results of soil vapour headspace measurements in parts per million (ppm) were also recorded in the borehole logs included in Appendix C, as discussed in Section 6.5.

Field staff used the MiniRAE 3000 PID equipped with an 10.6-electron-volt (eV) discharge lamp for field screening. The MiniRAE 3000 has a detection range of 0 to 2,000 ppm. The accuracy of the unit is ±2 ppm or 10 percent of the reading for readings of 0 to 2,000 ppm. The resolution of this unit is 0.1 ppm for readings less than 99 ppm, and 1.0 ppm for readings between 100 and 2,000 ppm.

Isobutylene, at a concentration of 100 ppm, was used as the calibration gas, and the instruments were calibrated according to the manufacturer's recommendations prior to use each day. Each instrument's calibration was checked by exposing the instrument to the calibration gas with a known concentration and comparing with the actual reading.



Field screening techniques were used during the Phase Two ESA to identify soils impacted by volatile compounds, such as VOCs, certain polycyclic aromatic hydrocarbons (PAHs), and PHCs. The field screening techniques included visual and olfactory observations and the use of a PID to measure soil vapour headspace concentrations. The field screening results guided the selection of soil samples per the SAPs (for example, the collection of worst-case or delineation samples).

Sections 5.1 and 5.3 summarize the measures taken to minimize the potential for cross-contamination during soil sampling.

5.5 Groundwater: Monitoring Well Installation

As part of this investigation, Aardvark installed monitoring wells according to the requirements specified in O. Reg. 903 (MECP 1990b), in a subset of the advanced soil borings, to assess groundwater quality and to assist in determining groundwater flow rates and directions at the Phase Two Property. Section 5.2 describes the drilling equipment used for monitoring well installation.

The monitoring wells were installed so the screened portion straddles and intercepts seasonal fluctuations at the water table, unless otherwise indicated by the SAP (for example, monitoring wells in perched groundwater). The saturated screen thickness of each well did not exceed 3.05 m. Each monitoring well was constructed per the SOP. The monitoring well construction consisted of the following:

- Approximately 5-centimetre (cm)-diameter, Schedule 40 polyvinyl chloride (PVC) risers
- 5-cm-diameter, Schedule 40, No. 10 slot PVC screen with a preferred screen length of 3.05 m (variations in screen length occurred)
- Appropriate sand pack to 0.3 m above top of screen
- 0.6 m of bentonite seal above sand pack composed of a 0.6-cm hydraulic hole plug
- Protective flush mount well casings secured with concrete

Monitoring well installation details are provided in the borehole logs in Appendix C. Monitoring wells onsite were tagged as a Well Cluster. The Well Tag number is pending from Aardvark.

Dedicated Waterra polyethylene tubing with an inertial lift foot valve was installed in each newly installed monitoring well. Wells were developed using this equipment to remove particulates or fluids that may have collected in the screen or sand pack during well installation activities. Well development was considered complete in the field under one of the following conditions:

- Removal of three complete well volumes, including sand pack
- The monitoring well was developed dry three times
- Groundwater was clear and relatively free of particulates

All monitoring wells for each sampling event were examined for nonaqueous phase liquid (NAPL) using an interface probe. The presence or absence of NAPL was recorded in the monitoring well development field form. The monitoring well was then developed in accordance with the SOPs. Once the monitoring well had recovered to static conditions, the monitoring well was examined for NAPL using an interface probe.

5.6 Groundwater: Field Measurement of Water Quality Parameters

The field measurement of water quality parameters was performed during well purging and before the collection of groundwater samples. These measurements were required to provide an indication that the samples collected



were stable and representative of the groundwater in the formation, and to evaluate groundwater quality at the time of sampling.

This task was performed per the SOP. Water quality parameters were measured using the Horiba U-52 water quality meter. This instrument measures: groundwater temperature, pH, oxidation reduction potential, dissolved oxygen (DO), electrical conductivity (EC), and turbidity. Before taking the field measurements, the water quality meters used were calibrated according to the manufacturer's instructions using standard calibration solutions. Water quality meters were calibrated prior to use each day.

Water quality meter readings were collected approximately every 3 to 5 minutes and recorded in the field book and in groundwater sampling field tracking sheets for the following parameters: groundwater temperature, pH, oxidation reduction potential, DO, EC, and turbidity. These field parameters provided an indication of stabilized groundwater conditions before sampling occurred. Indicator parameters were deemed to be stable when an average of three consecutive measurements met the following criteria:

- $pH = \pm 0.1 \text{ unit}$
- Temperature = ±10 percent
- DO = ±10 percent or ±0.1 milligrams per litre (mg/L) if reading is less than 1 mg/L
- EC = ±10 percent
- Oxidation reduction potential = ±10 millivolts

Once stabilization had been reached, samples were collected in the appropriate sample containers for laboratory analysis.

5.7 Groundwater: Sampling

A decontaminated 30-m interface probe was used to measure the depth of groundwater and presence or absence of NAPL below the top of the monitoring well casing or other reference point. To prevent cross-contamination between monitoring wells, the interface probe was decontaminated per the SOP.

Before sampling, the monitoring wells were purged using a low-flow method so representative samples of the water-bearing formation were obtained. Purging was generally conducted using a peristaltic pump and dedicated polyethylene tubing at each well.

The field measurement of water quality parameters was performed routinely throughout the purging process and immediately before the collection of groundwater samples (Section 5.6).

Groundwater samples were collected immediately following the completion of purging and the stabilization of the groundwater parameters, via Waterra inertial foot valves or peristaltic pump and dedicated polyethylene tubing.

New laboratory-supplied containers were used to collect groundwater samples for the parameters of interest. Sampling glassware was prepared by the laboratory with the required preservatives added to the parameter-specific sample bottles. When filling the sample bottles, field staff verified that a minimal level of particulate matter was entrained into the sample. Samples with more than 1-cm of particulate in the sample bottle (after it had settled) were considered unsuitable for chemical analysis and were discarded; groundwater samples were recollected in new laboratory-supplied bottles, confirming that less than 1 cm of particulate was in the sample bottle prior to analysis.

Field filtering was conducted for certain parameters consistent with the SOPs. Field filtering of dissolved metals was conducted using dedicated 0.45 micrometre (μ m) filters. PAH groundwater samples were not field-filtered; however, benzo(a)pyrene analysis samples may be filtered by the laboratory (in compliance with MECP [2011c]).



Field-filtering of samples was documented in the groundwater sampling forms. VOC and PHC F1 sample containers were completely filled, with no headspace.

Section 6.7 describes groundwater quality based on the analytical results.

5.8 Sediment: Sampling

The Phase Two Property does not contain a water body as defined under O. Reg. 153/04; therefore, sediment was not present in the investigation area, and no sampling was conducted.

5.9 Analytical Testing

ALS Canada Limited (ALS), a laboratory accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA), provided the offsite laboratory analyses. ALS, and subcontractor labs overseen by ALS, performed the chemical analysis in compliance with the MECP document titled *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* (MECP 2011c).

5.10 Residue Management Procedures

Excess soil cuttings generated from the field activities were contained in 200-litre (L) drums, and fluids generated during equipment decontamination, monitoring well development, and groundwater sampling were contained in either 1,000 L totes or 200 L drums, all of which were temporarily stored on the Phase Two Property. A composite soil sample was collected from the soil cuttings generated and submitted for Toxicity Characteristic Leaching Procedure analysis for environmental waste characterization and future waste management purposes. Wastes were managed per the requirements of O. Reg. 347 (MECP 1990c).

Sample results were compared to O. Reg. 347, Schedule 4 (MECP 1990c), which indicated t the investigation-derived waste would be classified as nonhazardous.

Jacobs coordinated the removal of soil and groundwater drums from the Phase Two Property as follows:

- On September 16, 2019, 32 drums of soil and one drum of water were removed from the Phase Two Property, and seven 1,000-L totes were pumped out by Aevitas Inc.
- On February 21, 2020, 21 drums of soil and 1,000 L of water were removed from the Phase Two Property by Aevitas Inc.
- On July 24, 2020, two drums of soil and one drum of water were removed from the Phase Two Property by Aevitas Inc. Appendix D provides the waste management documentation.

5.11 Elevation Surveying

Jacobs contracted West & Ruuska, a licensed Ontario Land Surveyor, of Brantford, Ontario, to perform an elevation survey to a geodetic benchmark following the completion of the subsurface investigations. The survey was performed on September 18, 2019. The survey referencing benchmark number and associated elevation is pending from West & Ruuska.

The elevation survey included the coordinates and elevations of the ground surface and top-of-riser pipe (as applicable) for the monitoring well and borehole locations advanced as part of Jacobs' investigation.



5.12 Quality Assurance and Quality Control Measures

The following sample handling, equipment cleaning, and field QC measures were followed during the Phase Two ESA investigation:

- Soil samples were collected in sample containers provided by the analytical laboratory, which were pre-charged with the appropriate preservatives and sized relevant to the analyses requested.
- Sample container labels included the project No., sample identification (ID), and parameters for chemical analysis. Unique sample IDs were assigned to correspond with the field notes or field forms associated with each sampling location.
- Once labelled, sample containers were placed in ice-filled coolers.
- Samples were transported to an offsite analytical laboratory; a chain-of-custody form was completed and accompanied each sample shipment.
- Deviations from the SAPs were noted and discussed with the QPESA, as applicable. Section 4.4 discusses SAP deviations.
- Equipment decontamination procedures were carried out per Jacobs' SOPs, which were developed in accordance with O. Reg. 153/04, and include (as applicable):
 - Cleaning tools for sample collection by removing particulate matter with a brush (as needed), rinsing with potable water, rinsing with methanol, rinsing with potable water, and drying with clean paper towel
 - Cleaning heavy equipment by removing particulate matter with a brush, pressure washing, or both, as required
- The SAPs included a QA/QC program that specified the following minimum field QC measures:
 - One laboratory-prepared trip blank was included in each cooler shipment containing volatile organics (for example, VOCs, BTEX, or PHC F1) samples.
 - Duplicate soil samples were collected and submitted at a minimum frequency of one duplicate for each 10 samples submitted. Duplicate samples were submitted 'blind' to the laboratory, and field staff documented in their field books each duplicate sample location.
 - Calibration checks on field instruments were completed daily and reported in the field book or SOP calibration forms.
 - Deviations from the QA/QC program were noted and discussed with the QPESA, as applicable.
 Section 4.4 discusses SAP deviations.



6. Review and Evaluation

6.1 Geology

The drilling program completed during the field investigations included advancing 27 boreholes to a maximum depth of 15.62 mbgs, which provided information about the subsurface materials. Jacobs created three geological cross-sections to show the Site stratigraphy. Figure 6-1 shows the locations of the cross-sections, and Figures 6-1a to 6-1d show the geological cross-sections A-A,' B-B,' C-C,' and D-D,' respectively.

The Site-specific geology generally consisted of the following characteristics:

- A thin layer of asphalt overlies the Site (up to 0.15 mbgs).
- Fill materials were observed from beneath the asphalt to a maximum depth of 3.91 mbgs, with an average thickness of 1.87 m. The fill is variable in composition; however, the majority of fill is sand, sand and gravel, or silty sand. Silty clay and clayey silt were also observed. Anthropogenic materials, such as brick, glass, metal products, and wood were commonly reported, as was iron oxide staining on the soil.
- Native overburden underlying the fill consists of a sand matrix that exists roughly from the bottom of fill to the bedrock, with interbedded layers of gravel and silt; generally, sand directly underlies the fill layer, and gravel and silt layers are found underlying some sand (the gravel and silt are described below). The sand is generally brown, dense, and moist; in the northern portion of the Site, the sand tends to have some silt content (ranging from trace silt to silty sand), and in the southern portion of the Site, the sand generally shows trace gravel. These differences are likely associated with the silt and gravel layers.
- A silt layer was encountered in the northern portion of the Site. The depth to silt ranged from 2.13 to 3.94 mbgs, and the average thickness of the layer was 3.58 m. The silt was generally described as brown or grey, fine to coarse sand, low to high plasticity, with traces of gravel. At two locations (BH201 and BH202), a high sand content was reported for part of the silt layer. In most locations where the silt was encountered, it underlies a layer of sand and directly overlies bedrock. The silt is considered an aquitard due to its low hydraulic conductivity (Section 6.3).
- A second, small silt lens was observed in the southern portion of the Site, characterized by BH203 and BH204. This lens is apparently disconnected from the larger silt layer in the northern portion of the Site. Depth to this silt layer ranged from 2.21 to 3.72 mbgs, with an average thickness of 1.37 m. This silt lens contacts bedrock at one location, and in the other terminates above a sand layer. The silt in this lens was described as brown, hard, and moist, with dolostone bedrock fragments observed.
- A layer of gravel and sand was encountered in the southern portion of the Site. The depth to this gravel and sand layer ranged from 1.52 to 5.94 mbgs, and the average thickness of the layer was 2.16 m. Generally, the sand and gravel extends to the bedrock, but in the southeastern portion of the Site, it terminates above a layer of sand. The material was generally described as brown and dense, with fine to medium sand, trace clay, and occasional cobbles and dolostone fragments. The gravel and sand layer is depicted in cross-sections A-A,' B-B,' and C-C' (Figures 6-1a through 6-1c).
- A clay lens was encountered in the middle of the Site (MW109). The clay was encountered from 1.14 to 2.44 mbgs, which is generally consistent with the depth of the fill layer, and is expected to be very small laterally. As some other fill materials were described as being clayey, it is possible this is layer is also anthropogenic.
- Bedrock at the Site is Guelph Formation dolostone. Depth to the overburden/bedrock contact ranged from 4.57 to 8.43 mbgs, with an average depth at 5.99 mbgs. The highest bedrock elevations were encountered along an approximate southwest-to-northeast transect of the Site (MW107, MW100, BH202, MW109, BH206; see Figure 6-1 for plan of borehole locations). Bedrock is described as being generally highly



weathered and fractured within the first 0.3-0.7 m of bedrock. It was also noted to be vuggy, with calcite mineralization.

A detailed description of geology encountered during the drilling program is included in the borehole logs provided in Appendix C.

6.2 Groundwater: Elevations and Flow Direction

The Phase Two Property is interpreted to consist of a predominantly sandy overburden overlying Guelph Formation dolostone bedrock. Within the northern portion of the Site, there is a thick silt deposit. There are two main hydrogeological units encountered at the Site: (1) perched groundwater above a silt strata in the northern portion of the Site, and (2) a shallow unconfined aquifer generally in the upper bedrock, but extending in places up into the overburden soil. These two hydrogeological units are referred to as 'the perched groundwater' and 'the bedrock aquifer,' respectively. The Site has been paved as a parking lot and is likely to receive low groundwater recharge from precipitation.

Groundwater conditions and characteristics were assessed using 18 monitoring wells (15 wells installed as part of the field investigation for the Phase Two Property, and three existing historical monitoring wells):

- Three of these wells (BH17-MW5S, MW102A and MW103) are screened entirely within the overburden in the northern portion of the Site and were used to evaluate the perched groundwater.
- Twelve wells are screened within the upper bedrock to delineate the water table, two of which (MW104 and MW105) straddle the overburden and bedrock contact.
- Three wells (MW107B, MW110B, and MW111) are installed in the deeper in the bedrock aquifer.

Table 6-1 provides the construction details for the newly installed and historical groundwater monitoring wells.

Groundwater elevations were measured in various wells during the Phase Two investigation as follows:

- 1) September 11, 2019: All 11 wells were monitored for groundwater elevation. Depth to groundwater in the bedrock aquifer wells ranged from 6.45 to 8.48 mbgs (321.19 to 322.72 masl). Depth to the perched groundwater in the overburden wells ranged from 4.11 to 4.31 mbgs (325.19 to 325.41 masl).
- 2) September 18, 2019. All 11 wells were monitored for groundwater elevation. Depth to groundwater in the bedrock aquifer wells ranged from 6.48 to 8.56 mbgs (321.14 to 322.69 masl). Depth to the perched groundwater in the overburden wells ranged from 4.14 to 4.48 mbgs (325.12 to 325.38 masl).
- 3) December 18, 2019. All 15 wells and one historical well were monitored for groundwater elevation. Depth to groundwater in the bedrock aquifer wells ranged from 6.46 to 8.66 mbgs. Depth to the perched groundwater in the overburden wells ranged from 4.0 to 4.45 mbgs.
- 4) April 15, 2020. All 15 wells and one historical well were monitored for groundwater elevation. Depth to groundwater in the bedrock aquifer wells ranged from 6.27 to 8.33 mbgs. Depth to the perched groundwater in the overburden wells ranged from 3.78 to 3.92 mbgs.

Table 6-2 presents a record of the available groundwater elevations. Figures 6-2a, 6-2b, and 6-2c present the September 2019, December 2019, and April 2020, interpreted groundwater elevation contours and flow directions within the bedrock aquifer for the Phase Two Property, respectively.

The bedrock aquifer water table elevation was observed to vary by 1.77 m in elevation across the Site. Local groundwater is expected to flow east, toward the Speed River; however, Site specific groundwater flow was interpreted to be radial, from a high elevation on the west boundary of the Site towards the north, and east to



southeast. The higher groundwater elevations at the western portion of the Site appear to be correlated with higher bedrock elevation.

The perched groundwater was observed at BH17-MW-5S, MW102A, and MW103 above a low-permeability silt aquitard layer. The full extent of the perched groundwater is currently not fully understood but may have a similar extent to the silt layer.

The bedrock was observed to have a variable hydraulic conductivity and water-bearing capacity during Site investigations (refer to Section 6.3.1).

The minimum depth to groundwater observed at the Site was 3.78 mbgs (perched) and 5.82 (bedrock). Underground utilities are not expected to extend to that depth (refer to Figure 2-2b; depths of utilities are unknown), and therefore not expected to significantly influence the groundwater flow directions.

6.3 Groundwater: Hydraulic Gradients

6.3.1 Horizontal and Vertical Gradients

Jacobs estimated the hydraulic conductivity (K) of the low-permeable silt layer and bedrock units based on slug testing in five wells (MW102A and MW103 for the silt; MW101, MW107 and MW109 for the bedrock). Table 6-3 presents the hydraulic conductivity values collected on Site. The K for the silt layer ranged from 3.6×10^{-8} to 7.4×10^{-7} metres per second (m/s), with a geometric mean of 1.6×10^{-7} m/s. The K for the bedrock unit ranged from 4.6×10^{-7} to 2.0×10^{-4} m/s, with a geometric mean of 6.0×10^{-6} m/s.

The horizontal hydraulic gradient within the bedrock aquifer was estimated for the September 18, 2019, December 18, 2019, and April 15, 2020 monitoring events. The horizontal hydraulic gradient within the bedrock aquifer was similar in September and December 2019, with estimated average gradients of 0.018 metres per metre (m/m) and 0.017 m/m, respectively. The range of hydraulic gradients for these two events were between 0.016 m/m and 0.025 m/m.

The horizontal hydraulic gradients for April 2020 were lower across the Site, estimated between 0.009 m/m and 0.015 m/m, and had an average gradient of 0.013 m/m. The maximum groundwater elevations within the bedrock aquifer were measured during this monitoring event, likely associated with increased precipitation and runoff in the spring. Elevated groundwater levels may have "flattened" the gradient compared to fall and winter. Horizontal hydraulic gradient calculations are presented in Appendix E, Table E-1a.

The horizontal linear groundwater flow velocity was estimated for the bedrock aquifer using the calculated geomean K value of 6.0×10^{-6} m/s, the estimated horizontal hydraulic gradient range of 0.009 to 0.025 m/m, and an estimated porosity of 0.1 representing bedrock. The horizontal groundwater velocity within the bedrock aquifer was estimated between 24 and 47 metres per year (m/y). Calculations are presented in Appendix E, Table E-2.

Vertical gradients were calculated at three nested monitoring well sets using the September 18, 2019, December 18, 2019, and April 15, 2020 groundwater snapshots. All calculated vertical gradients were downward. The vertical hydraulic gradients observed at two nested well pairs (MW107/MW107B, and MW110A/MW110B) ranged between 0.042 and 0.063 m/m. Stronger vertical gradients were observed at MW102A and MW102B, ranging between 0.621 and 0.634 m/m, likely due to the influence of the perched groundwater above the silt layer observed at this well nest. Calculations are presented in Appendix E, Table E1-b.



6.4 Fine-to-medium Soil Texture

Under O. Reg. 153/04, "coarse textured soil" contains more than 50 percent by mass of particles that are 75 μ m or larger in mean diameter (MECP 2011a). According to the regulation, if one-third of the soils at the Phase Two Property are coarse-grained, the more-stringent coarse-textured soil standards apply to the Site; otherwise, the medium-/fine-grained soil standards may apply.

Grain-size analysis was performed on twenty soil samples. Of these, 11 samples were classified as coarse-grained and 9 samples were classified as fine- to medium-grained. Grain size curves for the selected samples are provided at the end of Appendix F. The soil condition standards for coarse-grained soils were used at Phase Two Property, to account for the extensive presence of heterogeneous fill materials across the surface of the Site.

6.5 Soil: Field Screening

Field screening techniques were used during the Phase Two ESA to identify soils impacted by VOCs. PID measurements were performed during the investigation using the procedures and equipment described in Section 5.4.

PID results from the current investigation (by soil unit) are summarized as follows:

- Fill: PID readings from the fill material onsite were generally less than 10 ppm, except for BH204 and BH205. The maximum PID reading from this unit was measured at BH205 (40.2 ppm).
- Sand: PID readings from this unit were generally less then 10 ppm with some greater values detected. The maximum PID reading from this unit was measured at BH200 (75.3 ppm).
- Silt: The PID readings from this unit (located in the northern portion of the Site) were generally less than 10 ppm. The maximum PID reading from this unit was measured at BH201 (9.9 ppm).
- Sand and Gravel: The PID readings from this unit (in the southern portion of the Site) were generally less than 10 ppm, with some greater values detected. The maximum PID reading from this unit was measured at BH205 (64.5 ppm).

Visual and olfactory observations and soil vapour headspace measurements (in ppm) were recorded in the borehole logs provided in Appendix C.

6.6 Soil Quality

Through current and historical investigations, the nature and extent of potential soil contamination were investigated for each identified APEC and for the Phase Two Property in its entirety. Figure 4-2 shows the APECs and associated sample locations. Investigative locations, including the analysis completed at each location, are summarized on an APEC-by-APEC basis in Table 6-4. Figure 6-3 presents historical data that were considered unreliable for RSC purposes, but used to direct the Phase Two ESA investigations. Table 6-5 provides the analytical results of the Phase Two ESA investigation, along with sampling depth, and compares these to the Table 2 SCS (MECP 2011b). Figures 6-4 through 6-12 present the distribution of soil concentrations exceeding the Table 2 SCS by analytical group in plan view for all stratigraphic units.

The inferred horizontal extent of soil concentrations greater than the Table 2 SCS are also shown. Where there are exceedances of the applicable SCS (except for parameters relying on an exemption [Section 6.10.7.7]), Jacobs has prepared at least one cross-section by analytical group, which follows the plan view figure. The cross-sections present the inferred vertical extent of soil concentrations greater than the Table 2 SCS. Maximum concentrations of each detected parameter are provided in Table 6-6 and shown in red text on the respective plan view and cross-sectional figures.



Soil quality across the Site was evaluated using a total of 95 soil samples collected from various depths from 36 sampling locations across the Site. Samples were submitted for laboratory analysis for one or more of the following analytes:

- Other regulated parameters (ORPs) (hot-water-soluble boron [HWS boron], hexavalent chromium, cyanide, mercury, EC, and sodium adsorption ratio [SAR])
- Metals and hydride-forming metals
- BTEX
- PHCs
- PAHs
- VOCs
- Acid, Base, Neutral Compounds (ABNs)
- PCBs
- Dioxins and furans (D&Fs)

Soil at the Phase Two Property was found to be generally impacted with ORPs; specifically, salt-related analytes (that is, EC and SAR). Localized impacts of metals, specifically lead and mercury, were also identified. The following subsections provide details about the frequency, distribution, and identification of COCs.

6.6.1 Other Regulated Parameters (Electrical Conductivity, Sodium Adsorption Ratio, Hot-water-soluble Boron, and Cyanide)

SAR and EC exceedances in soil were widespread across the Site, with 56 of 64 samples (88 percent) from 15 of 17 locations (88 percent) exceeding the Table 2 SCS. Exceedances of EC and SAR were identified to a maximum depth of 7.92 mbgs (MW102B) and were present at depths extending from the ground surface to the bedrock surface. Maximum concentrations were identified at MW102B (2.95 milliSiemens per centimetre [mS/cm]) and MW113 (108) for EC and SAR, respectively. At MW102B, EC concentrations decreased with depth, but were still above the Table 2 SCS in the sample collected just above the bedrock surface. At MW113, the maximum concentrations of SAR were found at 1.98 to 2.59 mbgs. SAR and EC exceedances were present across all areas of the parking lot, except for the northeastern portions of the 152 and 160 Wyndham Street North parcels. The presence of EC and SAR are likely a result of the application of deicing materials (that is, road salts) on the parking lot surfaces (APEC-4). At the discretion of the QPESA and based on the revised regulation, these parameters are not considered to be COCs at the Phase Two Property.

Correlated ORP parameters in groundwater, sodium and chloride, were also identified at the Phase Two Property, indicating that these parameters in soil are likely acting as a contaminant source contributing to groundwater.

Cyanide and HWS-boron were analyzed in 48 samples collected from 17 locations at the Site, with no exceedances of the Table 2 SCS.

Figure 6-4 presents (in plan view) the locations and sample depths for the ORP soil samples at the Phase Two Property, showing the horizontal extent of impacts.

6.6.2 Metals, Hydride-forming Metals, and Select ORPs (Mercury, Methylmercury, and Hexavalent Chromium)

Metals, hydride-forming metals, and select ORPs were assessed across the Site using data from the current investigation, supplemented with data from 2008 (XCG 2008). Metals data from 1993 and 2001, not considered



reliable for the Phase Two ESA (samples were not collected or analyzed using O. Reg. 153/04 protocols, or may not represent current condition; refer to Section 3.2), were used as screening data to plan the Phase Two ESA investigation.

Historical metals exceedances (for cadmium, copper, lead, and zinc) were identified from data collected in 1993 and 2001, reported in the central portion of the Site at BH-K3, SA9, and BH-K2 see Figure 6-3) within the surficial fill. One sample from BH-06, collected in 2008, exceeded the Table 2 SCS for lead with a concentration of 199 μ g/g at 3.1 to 3.7 mbgs.

Jacobs collected an additional 20 samples for metals during the current investigation to expand on the distribution of metals at the Site, and included reanalysis at select historical locations where the historical exceedances were identified (Figure 6-3). A total of 69 samples from 33 locations were analyzed for metals at the Phase Two Property. Samples met the Table 2 SCS across the Site, except for one location: elevated concentrations of lead and mercury were identified in a sample collected from MW101 (0.46 to 0.61 mbgs), located in the existing laneway in the southeastern portion of the Site. Based on observations during the drilling and test-pitting activities, the exceedances were estimated to be localized to the poor-quality fill in this area. Exceedances extended to a maximum depth of 3.0 mbgs, based on a deeper sample meeting the Table 2 SCS. Maximum concentrations of lead and mercury of 207 and 0.889 μ g/g, respectively were reported at MW101. The poor quality fill was not observed at other locations within the Phase Two Property.

The exceedance at BH-06 was reinvestigated by collecting a sample during the current investigation (BH211), from within 2 m of the original location at the same depth of the previous exceedance. A concentration of 18.7 μ g/g was reported, and therefore the soil at this location was determined to meet the Table 2 SCS, with an averaged concentration of 109 μ g/g.

Metals exceedances were determined to be isolated to the fill materials in the southeastern portion of the Site. All samples collected from native materials met the Table 2 SCS. Metals impacts are potentially related to historical industrial activities associated with the manufacture of sewing machine accessories and wire coils/springs (APEC-1) or general impacts associated with the fill identified on Site (APEC-2).

Apart from cadmium, metal exceedances of Table 2 SCS were not identified in groundwater, indicating that the metal impacts in soil (that is, lead and mercury) are not currently acting as a contaminant source contributing to impacts in groundwater.

Figure 6-5 presents (in plan view) the locations and sample depths for the soil samples collected for metals, hydride-forming metals, and select ORPs at the Phase Two Property, showing the horizontal extent of impacts. Figures 6-5a and 6-5b present the cross-sections, showing the vertical extent of metals impacts on the Phase Two Property.

6.6.3 Benzene, Toluene, Ethylbenzene, and Xylenes

BTEX was analyzed in soil in 53 samples from 20 locations, with no exceedances of the Table 2 SCS identified. BTEX were COPCs associated with various APECS across the Site associated with onsite PCAs, including APEC-3 (Historical Transformers), APEC-18 (Former Oil Shed), APEC-19 (Former Oil House), and APEC-21 (Former Garage).

Figure 6-6 presents (in plan view) the locations and sample depths for the BTEX soil samples collected at the Phase Two Property.



6.6.4 Petroleum Hydrocarbons

PHCs were analyzed in soil in 61 samples from 27 locations, with no exceedances of the Table 2 SCS identified from the current investigation. Historical PHC exceedances were identified in a surficial sample collected from BH-10 (0.0 to 0.6 mbgs) in 2008, which exceeded the Table 2 SCS for PHC F3 and F4 (Figure 6-3). Concentrations exceeded the free phase threshold for PHC F4 (MECP 2011d) however, no odours or staining were noted in the borehole log for this historical location. A borehole (BH207) was installed at this location during the current investigation, and no petroleum odours or staining were noted during the drilling activities. Samples from this location reported concentrations less than the Table 2 SCS, confirming the absence of PHCs where historical exceedances were identified. Based on the available information, the historical exceedance is likely related to the potential presence of asphalt in the soil sample and not representative of the current conditions on the Site; therefore, the PHC results were considered to be unreliable and were removed from the Phase Two ESA dataset.

PHCs as COPCs were associated with various APECs across the Site associated with onsite and offsite PCAs, including APEC-2 (Unknown Fill Quality), APEC-3 (Historical Transformers), APEC-14 (Historical Gasoline Spill), APEC-18 (Former Oil Shed), APEC-19 (Former Oil House), and APEC-21 (Former Garage).

Figure 6-7 presents (in plan view) the locations and sample depths for the PHC soil samples collected at the Phase Two Property.

6.6.5 Polycyclic Aromatic Hydrocarbons

PAHs were analyzed in 55 samples from 22 locations, with no exceedances of the Table 2 SCS from the current investigation. One historical sample from 2008, located in the west-central portion of the Site, exceeded the Table 2 SCS for dibenzo(a,h)anthracene (BH-14) with a concentration of 0.13 μ g/g, from a depth of 0.8 to 1.4 mbgs. This exceedance was reinvestigated during the current investigation (BH208), from within 2 m of the original location. A concentration of 0.05 μ g/g was reported from a depth of 0.91 to 1.07 mbgs; therefore, soils in this location were determined to meet the Table 2 SCS, with an averaged concentration of 0.09 μ g/g. It is the QPESA's opinion that the exceedance was most likely related to the asphalt at the surface of the sampling location and is not been considered representative of current site conditions.

PAHs were COPCs associated with various APECs onsite, including APEC-2 (Unknown Fill Quality), APEC-3 (Historical Transformers), APEC-14 (Historical Gasoline Spill), APEC-18 (Former Oil Shed), APEC-19 (Former Oil House), APEC-20 (Former Coke Storage), and APEC-21 (Former Garage).

Figure 6-8 presents (in plan view) the locations and sample depths for the PAH soil samples collected at the Phase Two Property.

6.6.6 Volatile Organic Compounds

VOCs (excluding BTEX) in soil were investigated at the Site via 53 samples from 20 locations, with no exceedances of the Table 2 SCS identified. VOCs were COPCs associated with various APECS across the Site, including APEC-1 (Former Industrial Property Use), APEC-2 (Unknown Fill Quality), APEC-3, APEC-14 (Historical Gasoline Spill), APEC-18 (Former Oil Shed), APEC-19 (Former Oil House), APEC-20 (Former Coke Storage), and APEC-21 (Former Garage).

Figure 6-9 presents (in plan view) the locations and sample depths for the VOC soil samples collected at the Phase Two Property.



6.6.7 Acid, Base, Neutral Compounds

ABN compounds at the Site were investigated via four samples from one location, with no exceedances of the Table 2 SCS identified. ABNs were COPCs associated with APEC-20 (Former Coke Storage).

Figure 6-10 presents (in plan view) the locations and sample depths for the ABN soil samples collected at the Phase Two Property.

6.6.8 Polychlorinated Biphenyls

PCBs in soil were investigated via nine samples from five locations, with no exceedances of the Table 2 SCS identified. One historical sample along the eastern property boundary (SA9) exceeded the Table 2 SCS from 0.0 to 0.15 mbgs (XCG 1993). As Section 3.2 discussed, these data were excluded for use in the Phase Two ESA, but were used to direct the current investigation. PCBs were resampled (BH209) at this historical location at two separate intervals between ground surface and 1 mbgs, and all results were reported as nondetect concentrations of $0.02 \mu g/g$.

Kewen (2001) indicated the transformer area (APEC-3) may have been previously remediated. Although additional documentation has not been provided to Jacobs, based on the recent soil samples collected in the vicinity of SA9, PCB exceedances were not identified at the Site.

Figure 6-11 presents (in plan view) the locations and sample depths for PCB soil samples collected at the Phase Two Property.

6.6.9 Dioxins and Furans

D&Fs in soil at the Site were investigated via two samples collected from two locations at the Site, with no exceedances of the Table 2 SCS. D&Fs were potentially associated with 152 and 160 Wyndham Street North, where a historical fire was reported to have occurred; however, no impacts were identified onsite during the Phase Two investigation.

Figure 6-12 presents (in plan view) the locations and sampling depths for the dioxins and furans soil samples collected at the Phase Two Property.

6.6.10 Contaminants of Concern in Soil

O. Reg. 153/04 (MECP 2011a) defines COCs as chemicals with concentrations that exceed the applicable SCS or chemicals with no applicable SCS that are associated with a PCA. The MECP document entitled *Procedures for Use of Risk Assessment under Part XV.1 of the Environmental Protection Act* (Procedures Document) (MECP 2005) indicates at the discretion of the QPESA, chemicals without an applicable SCS may be included or excluded as COCs based on an understanding of geoscience, the potential for the chemical to limit the use of the Site, or both.

Maximum concentrations (Table 6-6) of each chemical analyzed in soil at the Phase Two Property were screened against the Table 2 SCS (Table 6-7a). In general, where concentrations were found detected greater than the Table 2 SCS, the parameters were retained as a COC to be evaluated in the RA.

Additional review was conducted for parameters, specifically sodium, which has no Table 2 SCS, but has an available Ontario Typical Range value, and was found at elevated concentrations. SAR assesses the risks of sodium in soil; therefore, at the discretion of the QPESA, sodium was not specifically assessed or carried forward as a COC. The rational for the removal of sodium in soil is presented in Table 6-7b. Parameters that were not



considered as COCs based on averaging from additional sampling or exceptions in Section 49.1 of O. Reg. 153/04 are presented in Table 6-10c.

All analytes with a Table 2 SCS that were reported as nondetect had laboratory reporting limits (RLs) less than the SCS. No analytes associated with a PCA and without a MECP SCS were reported as detected in onsite soils.

Table 6-7d summarizes the chemicals retained as COCs in soil for the Phase Two Property based on the evaluation provided.

6.7 Groundwater Quality

The nature and extent of potential groundwater contamination was investigated for the identified APECs. Figure 4-2 shows the APECs and associated sample locations. Table 6-8 summarizes the analytical results of the investigation, along with the well screen interval, and compares these to the applicable Table 2 SCS (MECP 2011b). Figures 6-13 through 6-19 present the groundwater concentrations exceeding the applicable Table 2 SCS by analytical group in plan view for all groundwater units. For this report, cross-sections showing the inferred vertical extent of groundwater concentrations greater than the Table 2 SCS have been produced for the metals analytical group only (cadmium).

Groundwater across the Site was evaluated using a total of 39 groundwater samples collected from 15 groundwater monitoring wells. Samples were submitted for laboratory analysis for one or more of the following analytes:

- ORPs (chloride, cyanide, and sodium)
- Metals (field filtered)
- BTEX
- PHCs
- PAHs
- VOCs
- ABNs

Groundwater impacts at the Phase Two Property associated with sodium and chloride were widespread across the Site. Cadmium exceedances were noted in two monitoring wells along the western property boundary. Sample results were compared to the MECP Table 2 SCS.

6.7.1 Other Regulated Parameters (Chloride, Sodium, and Cyanide)

Chloride and sodium exceedances in groundwater were widespread across the Site, with 24 of 32 samples (75 percent) from 13 of 15 locations (87 percent) exceeding the Table 2 SCS. Maximum concentrations of chloride and sodium were identified at the northern end of the Site in MW102B, with reported values of 9,610,000 micrograms per litre (μ g/L) and 6,100,000 μ g/L, respectively. Based on the soil results for EC and SAR in soil, these soil impacts are likely acting as a source of contaminant mass contributing to the groundwater at the Phase Two Property. Chloride and sodium are associated with APEC-4 (Use of Road Salts). Changes to 0. Reg. 153/04 include exceptions for exceedances of the SCS for salt-related substances; specifically, Section 49.1 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Act when a substance that has been applied to surfaces for the safety or vehicular or pedestrian traffic under conditions of snow or ice or both exceeds the SCS. Refer to Table 6-10c and Section 6.10.9 (Reliance on Exemption on SCS Exceedances) for additional details and rationale.

Cyanide was analyzed in 25 samples collected from 11 locations at the Site, with no detected exceedances of the Table 2 SCS. Cyanide was not identified at concentrations greater than the Table 2 SCS in soil; therefore, there is no source in soil to act as a source contaminant mass to the groundwater at the Phase Two Property.



Figure 6-13 presents (in plan view) the locations and screen depths for the ORP groundwater samples collected at the Phase Two Property.

6.7.2 Metals, Hydride-forming Metals, and Select ORPs (Mercury and Hexavalent Chromium)

Metals parameters, including hydride-forming metals, mercury, and hexavalent chromium, were analyzed in groundwater at the Site. The detected concentrations met the Table 2 SCS, apart from cadmium, with 7 of 36 samples (19 percent) from 2 of 15 locations (13 percent) exceeding the Table 2 SCS.

Cadmium exceedances in groundwater were found at MW107 and MW113, both screened from 5.3 to 8.4 mbgs and located along the southwestern property boundary. The maximum concentration was reported at MW113, which has been vertically delineated by MW107B (13.5 to 15.4 mbgs), with concentrations less than the Table 2 SCS. Wells located downgradient towards the east (MW110A, MW110B and MW101) reported concentrations of cadmium less than the Table 2 SCS. Additionally, available data from MW106 (5.5 to 8.5 mbgs), which is located offsite on adjacent City-owned property to the south, had reported concentrations of cadmium five times less than the Table 2 SCS. This along, with reported concentrations less than the Table 2 SCS at MW101 and MW110A/B, indicates onsite exceedances in groundwater are not likely migrating offsite.

The RLs for nondetect concentrations were greater than the Table 2 SCS for one or more parameters (antimony, beryllium, cobalt, silver, and vanadium) in samples from four locations (MW100, MW102A, MW102B, and MW110A). The laboratory Certificate of Analysis (COA) indicates the following for each of these samples: "Detection Limit Raised: Dilution required due to high concentration of test analyte(s)." The RLs were likely elevated due to the elevated concentrations of sodium and chloride in the samples. These metals are, therefore, not considered COCs for the Site. Refer to Table 6-10b for additional details and rationale.

Metals as COPCs were associated with 15 of the 21 APECs across the Phase Two Property; however, limited impacts were identified in groundwater at the Site (cadmium), which do not correspond with the shallow metal impacts in soil (lead and mercury). Therefore, it is unlikely that metals impacts in soil are acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property. Given the location of the onsite cadmium impacts and no cadmium exceedances found in soil at the Site, the elevated concentrations may be related to offsite and upgradient PCAs (to the west) (for example, APEC-11 for Industrial Operations, APEC-12 for Historical Automotive Garage) or other unknown sources.

Figure 6-14 presents the plan view for metals groundwater sample locations and screen depths at the Phase Two Property. Figures 6-14a through 6-14c present the cross-section views of the cadmium impacts in groundwater.

6.7.3 Benzene, Toluene, Ethylbenzene, and Xylenes

BTEX parameters in groundwater were analyzed using 27 samples collected from 11 locations at the Site, with no detected exceedances of the Table 2 SCS. BTEX was associated with 7 of the 21 APECs across the Phase Two Property; however, no impacts were identified in groundwater at the Site, and no areas of BTEX impacted soil were identified. Therefore, for BTEX, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-15 presents (in plan view) the locations and screen depths for the BTEX groundwater samples collected at the Phase Two Property.

6.7.4 Petroleum Hydrocarbons

PHCs in groundwater were analyzed using 25 samples collected from 11 locations at the Site with no detected exceedances of the Table 2 SCS. PHCs are associated with 16 of the 21 APECs across the Phase Two Property;



however, no impacts were identified in groundwater at the Site, and concentrations in soil were confirmed to not be present based on the current investigation. Therefore, for PHCs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-16 presents (in plan view) the locations and screen depths for the PHC groundwater samples collected at the Phase Two Property.

6.7.5 Polycyclic Aromatic Hydrocarbons

PAHs in groundwater were analyzed using 25 samples collected from 11 locations at the Site, with no exceedances of the Table 2 SCS. PAHs as COPCs were associated with 16 of the 21 APECs across the Phase Two Property; however, no impacts were identified in groundwater at the Site, and PAHs in soil were determined not to be present based on the resampling of historical locations as part of the current investigation. Therefore, for PAHs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-17 presents (in plan view) the locations and screen depths for the PAH groundwater samples collected at the Phase Two Property.

6.7.6 Volatile Organic Compounds

VOCs (excluding BTEX) in groundwater were investigated at the Site using 27 samples collected from 11 locations. The detected concentrations of VOCs met the Table 2 SCS, except chloroform. Concentrations of chloroform were greater than the Table 2 SCS in 12 samples from 5 locations; however, the chloroform exceedances are believed to be attributable to the introduction of municipal water during the subsurface drilling activities. Changes to O. Reg. 153/04 includes exemptions relating to contaminants related to municipally-treated water; specifically, Section 49.1 (2) states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Act when the QPESA has determined, based on a Phase One ESA of Phase Two ESA, that there has been a discharge of drinking water. Chloroform is, therefore, not considered a COC for the Site. Refer to Table 6-10c and Section 6.10.9 (Reliance on Exemption on SCS Exceedances) for additional details and rationale. VOCs were associated with 18 of the 21 APECs across the Site; however, no impacts were identified in groundwater (or soil) at the Site. Therefore, for VOCs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-18 presents (in plan view) the locations and screen depths for the VOC groundwater samples collected at the Phase Two Property.

6.7.7 Acid, Base, Neutral Compounds

ABNs in groundwater were analyzed in four samples from one location associated with APEC-20 (Former Coke Storage), with no exceedances of the Table 2 SCS. ABN impacts were not identified in soil at the Site, and therefore, could not act as a contaminant source mass for impacts in groundwater.

Figure 6-19 presents (in plan view) the locations and screen depths for the ABN groundwater samples collected at the Phase Two Property.

6.7.8 Polychlorinated Biphenyls

As PCBs in soil were confirmed to be absent within the one associated APEC (APEC-3: Historical Transformers), PCBs were not analyzed in groundwater. Therefore, for PCBs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.



6.7.9 Dioxins and Furans

D&Fs were not identified in soil at the Site, and therefore, could not act as a contaminant source mass for impacts in groundwater. D&Fs were not sampled in groundwater, considering the soil results and the physical/chemical properties of these compounds (that is, they tend to sorb to soils and are unlikely to be found in groundwater in the absence of a soil source).

6.7.10 Contaminants of Concern in Groundwater

O. Reg. 153/04 (MECP 2011a) defines COCs as chemicals with concentrations that exceed the applicable SCS or chemicals with no applicable SCS associated with a PCA. The MECP Procedures Document (MECP 2005) indicates that at the discretion of the QPESA, chemicals without an applicable SCS may be included or excluded as COCs based on an understanding of geoscience, the potential for the chemical to limit the use of the Site, or both.

Maximum concentrations (Table 6-9) of each chemical analyzed in groundwater at the Phase Two Property were screened against the Table 2 SCS (Table 6-10a). In general, where concentrations were found detected greater than the Table 2 SCS, the parameters were retained as a COC and evaluated in the RA.

An additional review was conducted for parameters that were reported as nondetect with laboratory RLs greater than the Table 2 SCS. At the discretion of the QPESA, some of these parameters were not carried forward as COCs if there was enough evidence to indicate the chemical was likely not present onsite at concentrations greater than the SCS, or would not interfere with the use of the Site, and should not be retained as a COC for carrying through to the RA. The rationale for the exclusion of these individual parameters in groundwater is presented in Table 6-10b. Parameters that were not considered as COCs based on the exceptions in Section 49.1 of O. Reg. 153/04 are presented in Table 6-10c.

Table 6-10c summarizes the chemicals retained as COCs in groundwater for the Phase Two Property based on the evaluation provided.

6.8 Sediment Quality

The Phase Two Property does not include a water body within its boundary as defined under O. Reg. 153/04. Therefore, sediment was not present in the investigation area.

6.9 Quality Assurance and Quality Control Results

As part of the field QA/QC program, the types of QA/QC samples collected included duplicate samples and trip blanks (for groundwater volatile analytes). Blind duplicate soil and groundwater samples were collected at a frequency of 1 duplicate sample for each 10 field samples submitted. Trip blanks for VOCs were submitted to the laboratory for chemical analysis with each VOC groundwater batch submittal. These QA/QC samples are important in determining whether field, transport, or analytical activities/conditions may have biased the reported soil and groundwater results (for example, cross-contamination). Accurate soil and groundwater results are required to appropriately evaluate the Phase Two Property for the applicable SCS.

Jacobs received soil and groundwater COAs from the laboratory electronically to reduce the possibility of transcription errors. Each sample collected by Jacobs as part of this Phase Two ESA investigation has an associated COA. Table F-1 in Appendix F provides a list that correlates each sample ID with a laboratory COA number. The COAs received from the analytical laboratory comply with the reporting requirements outlined in Section 47(3) of O. Reg. 153/04 and are provided in Appendix F.



For the current investigations, results were evaluated though a data quality evaluation (DQE) by the Jacobs project chemist. All samples were handled in accordance with the MECP *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* related to the following considerations:

- Holding times
- Preservation method
- Storage requirement
- Container type

In combination with the field QA/QC program, the laboratory QA/QC program was evaluated to verify the accuracy, precision, and validity of the data reported by the laboratory. Various elements of the laboratory QA/QC program are used to evaluate the data:

- Blanks are analyzed to detect laboratory contaminations that can cause data to be biased high.
- Laboratory control samples (LCS) are used to evaluate the laboratory performance.
- Laboratory duplicates are used to measure precision in the laboratory.
- Matrix spikes (MS) are used to identify high or low bias caused by matrix interference.
- Surrogate spikes are used to evaluate the method performance that can cause high or low bias in the data.

The laboratory QA/QC program was evaluated by examining blanks, LCS, MS, and surrogate spike samples.

The precision of the data was verified through the review of the laboratory and field data quality indicators that include laboratory duplicate and field duplicate relative percent differences (RPDs). All field (FD) and laboratory duplicate RPDs calculated for the Baker Street samples were within the acceptable limits (below 30% for groundwater and 50% for soil) except the following:

- Three FD pairs due to RPD exceedances for three metal analytes; 6 results were qualified.
- One FD pair due to RPD exceedance for moisture; 2 results were qualified.

Detected results associated with the RPD exceedance were flagged "J" and are considered estimated.

The accuracy of the data was verified through the review of the LCS, MS and surrogate recoveries, as well as the evaluation of laboratory method blanks, trip blank data, and other method specific criteria. The overall accuracy reported in this DQE is considered acceptable but was affected by the following:

- Three PAH and five D&F sample results in a combined three samples from COAs L2318180, L2320007, and L2328062 were flagged due gas chromatography/mass spectrometry (GC/MS) qualifier ion ratio not meeting criteria
- Eleven D&F results were flagged due to concentrations less than the calibration range but greater than the EDL; the estimated maximum concentrations are reported
- Four SAR results were flagged due to nondetection for both calcium and magnesium; the lowest possible concentration is reported as a minimum value
- Nineteen SAR result were flagged due to nondetection for sodium or one of calcium or magnesium; the highest possible concentration is reported as a maximum
- Two sample results for n-hexane from COA L2336718 were flagged due to LCS recovery less than the lower control limit
- Four sample results for dichlorodifluoromethane were flagged due to LCS recovery less than the lower control limit; two samples each from COA L2320007 and COA L2436005
- Three F1 (C6-C10) result from COA L2333129 were flagged due to surrogate recoveries less than the lower control limit



 Two D&F sample results in sample MW108-5-6' from COA L2318180 were flagged due to associated laboratory blank contamination

Detected and nondetected results associated with these QC issues were flagged "J" and "UJ," respectively, and are considered estimated. There were also two sample results that were flagged "U" and are considered nondetected due to detections in the laboratory blank.

The representativeness of the data was verified through the samples' collection, storage, and preservation procedures and the verification of holding-time compliance. The samples shipped to the laboratory arrived below the recommended 10°C and were analyzed within the required holding time, except for a moisture result in sample BH203-0.5-2, which was analyzed beyond the recommended holding time. This result was flagged "J" and is considered estimated.

The comparability of the data was verified using standard analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.

Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Valid data are defined as all data that are not rejected for project use. No data have been rejected. All data are considered valid.

The soil and groundwater analytical data evaluated as part of the DQE are considered valid and can be used to support the project decision-making process.

6.10 Phase Two Conceptual Site Model

Based on recent and historical Phase Two ESA work completed at the Phase Two Property, this section provides a Phase Two conceptual site model, as required by O. Reg. 153/04 (MECP 2011a). The Site is in downtown Guelph, southwest of the Speed River (Figure 2-1) and is approximately 1.14 ha in size. The Site is currently in use as a commercial parking lot and includes one laneway.

There are no buildings onsite; historical buildings (Figure 2-2a) were associated portions of the Site being used for parkland, commercial, and industrial purposes. From approximately 1827 to 1879 the parcel associated with 55 Baker Street was used a public burial ground (community land use). In 1892, a curling club was completed on the southern portion of the Site, and between the late 1890s and early 1900s, an industrial building (sewing machine and accessory manufacturer) was constructed in the central western portion of the Site. The industrial building and curling club were demolished in the early to mid-1960s and mid- to late 1960s, respectively. Subsequently, the Site was redeveloped into an asphalt parking lot (Pinchin 2018).

Historically, 152 and 160 Wyndham Street North were developed with commercial buildings during the mid-1800s. The northern portion of the parcel contained the American Hotel and a movie theatre, and an undertaker used the southern portion of the parcel. These properties were redeveloped for commercial retail use between 1916 and 1938, and remained so until between 2009 and 2013, at which point the buildings were demolished and replaced with an asphalt parking lot (Pinchin 2018).



6.10.1 Potentially Contaminating Activities

The Phase One ESA (Pinchin 2018) identified several PCAs within and outside the Site. Based on Jacobs' review of Pinchin 2018, as well as available historical environmental reports, aerial photographs, and FIPs, the following PCAs were identified on the Site, and resulted in an APEC (Figure 4-1a):

- 27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles
- 28 Gasoline and Associated Products Storage in Fixed Tanks
- 30 Importation of Fill Material of Unknown Quality
- 34 Metal Fabrication
- 48 Salt Manufacturing, Processing and Bulk Storage
- 55 Transformer Manufacturing, Processing and Use

The following PCAs were identified in the Phase One ESA (Pinchin 2018) and Phase One ESA Update (Jacobs 2021) outside the Phase Two Property, but on lands within 250 m the Site (that is, Phase Two Study Area) (Figure 4-1b):

- 27 Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles
- 28 Gasoline and Associated Products Storage in Fixed Tanks
- 31 Ink Manufacturing, Processing and Bulk Storage
- 34 Metal Fabrication
- 37 Operation of Dry Cleaning Equipment (where chemicals are used)
- 55 Transformer Manufacturing, Processing and Use

The specific descriptions of each PCA are provided in Table 4-2, including a rationale for whether the PCA results in an APEC on the Phase Two Property.

6.10.2 Areas of Potential Environmental Concern

Table 4-3 identifies the 8 APECs identified from onsite PCAs and the 14 APECs identified from offsite PCAs at the Phase Two Property. The following 22 APECs were identified within the Phase One ESA (Pinchin 2018) and supplemented by Jacobs as part of the Phase One ESA Update (Jacobs 2021) for the Phase Two Property (note, these are grouped by area, rather than in numerical order).

APECs from Onsite PCAs

- APEC-1: Historical Industrial Property Use: Coil wire springs, sewing machines, and accessories were historically manufactured at 55 Baker Street. (PCA 1)
- APEC-2: Unknown/Poor Quality Fill Material: The XCG Phase II ESA (XCG 2008) identified fill material to 3.0 mbgs at 55 Baker Street, and this is also likely located for the Wyndham properties, based on when they were developed (1862) after historical buildings had been demolished. (PCA 2)
- APEC-3: Historical Transformers: The 1960 FIP depicted an area of 55 Baker Street labelled as 'transformers.' (PCA 3)
- APEC-4: Use of Road Salts at the Property: The Site is currently used as a parking lot, and road salts are applied for vehicular and pedestrian safety. (PCA 56)
- APEC-18: Former Oil Shed: The 1911 FIP showed a small oil shed in the southwestern corner of the White Sewing Machine of Canada parcel of land on 55 Baker Street. (PCA 57)
- APEC-19: Former Oil House: The 1911 FIP showed a small oil house on the former White Sewing Machine of Canada parcel, now the western portion of 152 Wyndham Street. (PCA 58)
- APEC-20: Former Coke Storage: The 1911 FIP showed a garage located on the northeastern portion of 55 Baker Street. (PCA 59)



- APEC-21: Former Garage: The 1960 FIP showed a garage located on the northeastern portion of 55 Baker Street. (PCA 60)

APECs from Offsite PCAs to the North

- APEC-5: Historical Dry Cleaning: Potential dry cleaners were identified at 164 Woolwich Street. (PCA 5)
- APEC-6: Historical Retail Fuel Outlet and Automotive Repair/Servicing: identified at 160 Woolwich Street (PCA 4 and PCA 79); Historical Iron Foundry (PCA 78); Historical USTs: two gasoline USTs at 164-166 Woolwich (PCA 80)
- APEC-7: Historical Dry Cleaning: Potential dry cleaners were identified at 152 Woolwich Street.
 (PCA 12); Historical Garage: the 1929 FIP identified a garage at 166 Wyndham Street North (PCA 76);
 Historical UST: The 1929 FIP showed a gasoline UST at 168 Wyndham Street North (PCA 77)
- APEC-8: Historical Dry Cleaning: Potential dry cleaners were identified at 172 Wyndham Street North. (PCA 52)
- APEC-9: Historical Fuel Oil Underground Storage Tank: A historical underground storage tank was identified at 176 Wyndham Street North. (PCA 13)
- APEC-10: Historical Automotive Repair: A former automotive repair shop was identified at 176 Wyndham Street. (PCA 53)
- APEC-17: Historical Service Station: the 1946 and 1960 FIPs showed a service station with 3 associated gasoline USTs at 25 Suffolk (PCA 50); Historical Dry Cleaning: identified at 84 Yarmouth Street in 1955 (PCA 51); Historical Automotive Repair: identified at 27 Suffolk Street East (PCA 55); Historical Coach and Body Manufacturing: The 1946 FIP identified operations at 9-21 Suffolk Street East (PCA 81); Historical Industrial Property Use: sewing machine manufacturing was identified on the 1878 and 1892 FIPs at the corner of Suffolk and Yarmouth Streets (PCA 82).

APECs from Offsite PCAs to the East

- APEC-13: Historical Automotive Garage: A former garage was identified at 146 Wyndham Street North from 1930 to 1949. (PCA 18)
- APEC-15: Historical Dry Cleaning: Former dry cleaning operations were identified at 108 Wyndham Street North from 1917 to 1922. (PCA 19)

APECs from Offsite PCAs to the South

- APEC-14: Historical Gasoline Spill: Based on database searches, a historical gasoline spill at the intersection of Chapel Lane and Baker Street occurred, with possible environmental impacts to land and water. The quantity and exact location are unknown. (PCA 27)
- APEC-16: Historical Aboveground Storage Tank: Vent and fill pipes associated with an aboveground storage tank were observed at the corner of 20 Quebec Street (PCA 43); Historical UST: the 1946 FIP identified one UST under the roadway at 7 Quebec Street (PCA 25).

APECs from Offsite PCAs to the West

- APEC-11: Historical Offsite Industrial Operations: Cooke & Denison Machine and Tool Works was identified at 40 Baker Street from 1946 to 1960 (PCA 8); Historical UST: one UST identified on the 1946 FIP at 40 Baker Street (PCA 9); Historical Fuel Oil Tank: identified between 25 Yarmouth and 32-34 Baker Street properties on the 1960 FIP (PCA 71).
- APEC-12: Historical Automotive Garage: A former garage was identified at 45 Baker Street from 1946 to 1960 (PCA 6); Historical USTs: two USTS identified on Yarmouth Street (behind 45 Baker Street) on the 1929 and 1946 FIPs (PCA 7); Historical Industrial Operations: sewing machine manufacturing was identified between Yarmouth and Baker Streets on the 1878m 1892 and 1911 FIPs (PCA 70).



 APEC 22: Historical Dry Cleaning: Potential dry cleaning operations were identified at 2 Quebec Street in 1975 (PCA 11); Historical UST: identified at 2 Baker Street on the 1946 FIP (PCA 10); Former Coal Yard: identified on the 1892 FIP on the northwest corner of Quebec and Baker Streets (PCA 72).

Figure 4-2 shows the locations of the APECs and the current and historical borehole and monitoring wells. Table 6-4 shows, the Phase Two Property APECs have been investigated for the associated COPCs. Figure 2-2b shows several underground and overhead utilities are present in this area, including a gas line, water line, storm sewer, and several overhead hydro lines.

6.10.3 Subsurface Utilities and Construction Features

Utilities (including sanitary and storm sewers and water lines) were active and connected during the Phase Two ESA investigation, and are still present in the subsurface. Based on these utility connections, there is potential for the preferential flow of COCs within utility corridors. However, based on the following factors, COCs are most likely to be transported (that is, to migrate) via groundwater:

- Depth of groundwater (at least 3.78 mbgs [perched] and 5.82 mbgs [bedrock])
- Suspected depth of underground utilities (1.5 mbgs or deeper)
- Presence of permeable materials onsite (fill, sand, and sand and gravel identified from surface to bedrock at an average depth of 5.99 mbgs)

Figures 2-2a and 2-2b show building outlines and identified underground utilities, respectively, on the Phase Two Property.

6.10.4 Physical Setting

The topography over the Phase Two Property is moderately flat, with ground surface elevations ranging from 328.34 masl (MW113 in the south) to 330.16 masl (BH201 in the west). The Site slopes slightly from the western border towards the south, north, and east. Surface runoff at the Phase Two Property is expected to flow radially from the west in these directions but is directed towards onsite catchbasins. Figure 3-1 shows the regional topography and surface water drainage features. The Speed River is the nearest downgradient waterbody, located approximately 130 to 150 m north-northeast of the Site, and ground surface tends to slope north towards the river. Groundwater from the region is likely to eventually discharge to Speed River.

The City categorizes regions of Guelph within Wellhead Protection Areas (City 2018). The Site is within Wellhead Protection Area B (2-year travel time) for several of the City's municipal water supply wells. The nearest municipal wells to the Site include the Water Street, Edinburgh, Membro, and Dean Wells (approximately 1.4 to 2.0 km south of the Site past the Eramosa River), and the Park and Emma Wells (approximately 1.3 to 1.5 km north of the Site past the Speed River).

The municipal groundwater resource is primarily drawn from the Gasport Formation, estimated to occur at least 45 mbgs. A lower-permeability Reformatory Member and Vinemount Member of the Eramosa Formation are generally understood to serve as a regional aquitard, situated above the Gasport and limestone formations of the Goat Island Formation (Brunton 2009).

The City is also part of the Plan (Lake Erie Region Source Protection Committee 2021). The Plan assigns Drinking Water Threat Vulnerability Scores across the region based on various risk factors; the Phase Two Property is assigned a Vulnerability Score of 10, the highest possible, indicating it is susceptible to potential contamination. The Site is also in a highly vulnerable aquifer and issues contributing area but is not in a significant groundwater recharge area or in a source water intake protection zone. Figure 3-2 shows the Plan mapping and location of nearest municipal wells.



6.10.4.1 Stratigraphy

The Site is interpreted to consist of a predominantly sandy overburden overlying Guelph Formation dolostone bedrock. Within the northern portion of the Site, there is a thick silt deposit. Exhibit 6-1 summarizes the geological units encountered beneath the Site during the Phase Two ESA activities.

Exhibit 6-1. Site Stratigraphy

Geological Unit	Approximate Depth (mbgs)	Average Thickness (m)	Lithology
Asphalt	Up to 0.15		A thin layer of asphalt was observed.
Fill	0.15 to 3.91	1.87	Sand, sand and gravel, or silty sand were encountered. Silty clay and clayey silt were also observed. Anthropogenic materials such as brick, glass, metal products, and wood were commonly reported, as was iron oxide staining on the soil.
Native Overburden	0.81 to bedrock	See below	A sand matrix was encountered with interbedded layers of gravel and silt (described here), extending to bedrock. The sand is generally brown, dense, and moist.
Silt Layer	2.13 to bedrock	3.58	A silt layer was encountered in the northern portion of the Site. The silt was generally described as brown or grey, fine to coarse sand, low to high plasticity, with traces of gravel.
Silt Lens	2.21 to 3.72	1.37	A smaller silt lens was observed in the southern portion of the Site and is disconnected from the larger silt layer in the north of the Site. The silt in this lens was described as brown, hard and moist, with dolostone bedrock fragments observed.
Gravel and Sand	1.52 to 5.94	2.16	A layer of gravel and sand was encountered in the southern portion of the Site. The material was generally described as brown, dense, with fine to medium sand, trace clay, and occasional cobbles and dolostone fragments.
Clay Lens	1.14 to 2.44	1.30	A clay lens was encountered at a single location in the middle of the Site. As some other fill materials were described as being clayey, it is possible this is layer is also anthropogenic.
Guelph Formation dolostone	4.57 to 8.46 (top of bedrock range)	N/A	Generally, this dolostone was highly weathered and fractured within the first 0.3 to 0.6 m of bedrock contact. It was also noted to be vuggy, with calcite mineralization. The average depth to bedrock is 5.99 mbgs for the Site.

Geological cross-sections were prepared to show the Site stratigraphy. Figure 6-1 presents cross-section locations, and Figures 6-1a to 6-1d present cross-sections A-A,' B-B,' C-C,' and D-D,' respectively.

Based on the Site-specific geology, the main units investigated during the Phase Two ESA were an overburden composed of sand and interbedded silt and gravel, and bedrock.



6.10.4.2 Hydrogeological Characteristics

There are two main hydrogeological units encountered at the Site: (1) perched groundwater above a silt strata in the northern portion of the Site, and (2) a shallow unconfined aquifer generally in the upper bedrock, but extending in places up into the overburden soil (the 'perched groundwater' and 'bedrock aquifer,' respectively).

Twenty-one monitoring wells (18 wells from the current investigation and 3 historical wells) were used at the Phase Two Property to investigate conditions associated with the perched groundwater and the bedrock aguifer:

- Eighteen are installed in the bedrock aquifer.
- Three are installed to access the perched groundwater.

The bedrock monitoring wells are further defined as 'bedrock wells' for the 15 wells installed across or near the water table, and 'deep bedrock wells' for the three wells installed approximately 8 m into the bedrock, from 4.6 to 6.9 m below the water table for site characterization purposes. The site has been paved as a parking lot and is anticipated to receive low recharge from precipitation.

Figures 6-2a, 6-2b, and 6-2c present the interpreted groundwater elevation contours and flow directions within the bedrock (water table) using groundwater elevations collected during the monitoring events on September 11 and 18, 2019; December 18, 2019; and April 15, 2020, respectively.

Exhibit 6-2. Hydrogeological Characteristics

Groundwater Unit	Characteristic	Summary						
Bedrock	Flow Direction	Groundwater flows radially from a high elevation on the western boundary of the Site towards the north, and east to southeast. The higher groundwater elevations in the western portion of the Site appear to be correlated with higher bedrock layer elevation, as well as the topographical elevation and regional flow direction towards the Speed River.						
	Average Horizontal Hydraulic Conductivity	Range between September 18, 2019 and April 15, 2020: 4.6×10^{-7} to 2.0×10^{-4} m/s Geometric mean: 6.0×10^{-6} m/s The K of the bedrock was estimated based on slug testing in three wells (MW101, MW107, and MW109).						
	Average Horizontal Hydraulic Gradient	Estimated range between September 18, 2019 and April 15, 2020: 0.009 to 0.025 m/m Estimated average between September 18, 2019 and April 15, 2020: 0.016 m/m The maximum groundwater elevations within the bedrock aquifer were measured during the April 2020 monitoring event and were likely associated with snow melt and increased precipitation in the spring. Elevated groundwater levels may have "flattened" the gradient compared to fall and winter.						
	Groundwater Velocity	The horizontal linear groundwater flow velocity was estimated for the bedrock aquifer using the calculated geomean K value of 6.0×10^{-6} m/s, the estimated horizontal hydraulic gradient range of 0.009 to 0.025 m/m, and an estimated effective porosity of 0.1 for the weathered and fractured rock. The groundwater velocity within the bedrock is estimated to be approximately 24 to 47 m/y.						



Exhibit 6-2. Hydrogeological Characteristics

Groundwater Unit	Characteristic	Summary
Bedrock (cont'd)	Vertical Hydraulic Gradients	Vertical hydraulic gradients in the bedrock were calculated at two nested monitoring well sets: (1) MW107 and MW107B, and (2) MW110A and MW110B. The vertical hydraulic gradients observed were downwards and ranged from 0.062 m/m to 0.063 m/m at MW107 and MW107B and 0.042 m/m at MW110A and MW110B.

Notes:

cm/y = centimeters per year COC = contaminant of concern

The perched groundwater was observed at BH17-MW-5S, MW102A, and MW103 above a low-permeability silt aquitard layer. The K ranging from 3.6×10^{-8} to 7.4×10^{-7} m/s, with a geometric mean of 1.6×10^{-7} m/s. Vertical hydraulic gradients observed in this unit (MW102A and MW102B) were downward, ranging between 0.621 and 0.634 m/m, due to the influence of the perched groundwater above the silt layer observed at this well nest. The flow direction, horizontal hydraulic gradient, and groundwater velocity were not calculated because the perched groundwater was not present across the entire Site. The full extent of the perched groundwater is currently not fully understood but may have a similar extent to the silt layer.

6.10.4.3 Depth to Bedrock

The Guelph Formation Dolostone that underlies the Site was encountered between 4.57 and 8.43 mbgs (321.62 to 324.96 masl), with an average depth to bedrock of 5.99 mbgs (323.46 masl). The highest bedrock elevations were encountered along an approximate southwest-to-northeast transect of the Site (MW107, MW100, BH202, MW109, BH206). Note, higher groundwater elevations are also associated with these locations, and the groundwater contours presented on Figures 6-2a, 6-2b, and 6-2c appear to show a radial flow outward from this bedrock high, following the topography and moving towards the Speed River.

6.10.4.4 Depth to Water Table

The water table within the Phase Two Property is within the Guelph Formation dolostone bedrock unit; in the northern portion of the Site, perched groundwater is associated with a low-permeability silt layer.

The depth to the bedrock aquifer and the perched groundwater were assessed based on three groundwater level monitoring events (September 18, 2019; December 18, 2019; and April 15, 2020).

The depth to the bedrock aquifer ranged from 5.82 to 8.66 (322.90 to 321.13 masl). The depth to the perched groundwater ranged from 3.78 to 4.43 (325.74 to 325.04 masl) based on the three monitoring events.

6.10.4.5 Applicable Site Condition Standards

O. Reg. 153/04 (MECP 2011a), under Part XV.1 of the *Environmental Protection Act*, addresses the assessment, cleanup, and filing of a Record of Site Condition for brownfield sites in Ontario, and applies to the Phase Two Property. Jacobs evaluated the Site based on a number of criteria to decide which of the generic SCS provided in the *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (MECP 2011b) applied for a comparison of soil and groundwater results from the Phase Two ESA investigation.



Exhibit 2-3 outlines the items Jacobs considered when selecting the SCS, as outlined in O. Reg. 153/04 (MECP 2011a), discussed here.

The special conditions for environmentally sensitive areas under Sections 41 or 43.1 of O. Reg. 153/04 do not apply to the Phase Two Property:

- The Site is not considered an area of natural significance or to be within the proximity of an area of natural significance, based on the information reviewed as part of the Phase One ESA (Pinchin 2018).
- Jacobs analyzed 45 soil samples for pH from 17 locations across the Phase Two Property (Figure 2-3). Based on the results of the Jacobs investigation, soil pH was found to range from 7.37 to 9.46. Soil pH was within the MECP's acceptable range for samples collected in both surface soil (from between surface and 1.5 mbgs, with a pH value in surface soil less than 5 or greater than 9) and subsurface soil (more than 1.5 mbgs with a pH value in subsurface soil less than 5 or greater than 11). Historical investigations reported elevated pH (greater than 9) in surface soil samples; however, brick fragments or concrete were present in the stratigraphy where samples with elevated pH were collected based on a review of the borehole logs. This information suggests nonsoil materials may have been sampled, potentially biasing the historical soil pH results. Therefore, the historical results may not be representative of actual soil pH conditions. Based on this information, Jacobs has relied solely on the soil pH data collected during the recent investigation to determine the applicable SCS, and soil pH is within the MECP's acceptable range.
- The special conditions for land within 30 m of a water body under Section 43.1 of O. Reg. 153/04 do not apply to the Phase Two Property; no waterbodies are located on the Site or within 30 m of the Site. The Speed River is the nearest downgradient waterbody, located approximately 130 to 150 m north-northwest of the Site.
- The special conditions for shallow soil properties cited under Section 43.1 of O. Reg. 153/04 do not apply to the Phase Two Property; the depth to bedrock is greater than 2 m, as bedrock was encountered between 4.93 mbgs and 8.43 mbgs.

The adjacent properties within 250 m are serviced by a municipal water source. Since the groundwater near the Phase Two Property does and will serve as a raw water supply for a drinking water system (understood to be the Gasport Formation as the primary reservoir), the potable groundwater condition was applied.

The current land use is commercial and community (roads), and the proposed future land use may include residential/community and commercial uses, provided an RSC acknowledged by the MECP is obtained. Due to the extensive presence of heterogeneous fill materials across the Site, the standards for coarse-grained soils were considered applicable.

Based on this information reviewed by the QPESA, the Table 2 SCS was applied to the Site.

6.10.4.6 Imported Soil

Fill materials were identified across the Site to a maximum depth of 3.91 mbgs, or between 326.32 masl and 329.47 masl, with an average thickness of 1.68 m. The fill is variable in composition; however, the majority of fill is sand, sand and gravel, or silty sand.

The Phase One ESA (Pinchin 2018) reports that "significant quantities of fill material" have been identified onsite through previous Phase Two ESA investigations.

No soil was imported to the Site as part of Jacobs' recent Phase Two ESA activities.



6.10.4.7 Proposed Buildings and Other Structures

The City (2019) indicates the Site's redevelopment will include the following components:

- New Guelph Public Library
- Residential housing
- Commercial/institutional buildings
- Parking
- Urban square

The buildings' configuration is not known at this time.

6.10.5 Contaminants

6.10.5.1 Contaminants Exceeding Applicable Site Condition Standards in Soil and Groundwater

The Phase Two Property was found to be primarily impacted with salt-related analytes (that is, EC and SAR in soil; sodium and chloride in groundwater). Localized metal impacts were identified in soil, and localized cadmium impacts were identified in groundwater. PAH impacts identified from a historical investigation (Kewen 2001) were resampled and determined not to be representative of Site conditions. Elevated concentrations of chloroform in groundwater were attributed to well installation activities and not with PCAs or APECs.

Although identified as COPCs at the Site, the following parameters were not identified with exceedances of the Table 2 SCS onsite, either in soil or groundwater:

- BTEX
- VOCs
- PHCs
- ABNs
- D&Fs

Tables 6-5 and 6-8 summarize the analytical results of the investigation for soil and groundwater, respectively, and compare these compare to the Table 2 SCS. Figures are provided that present the locations of soil samples (Figures 6-4 through 6-12) and groundwater samples (Figures 6-13 through 6-19) analyzed and a comparison to the Table 2 SCS by analytical group. Where exceedances of the Table 2 SCS are present, at least one cross-section has been prepared presenting the inferred vertical extent of impacts by analytical group, and follows the plan view figure. Maximum concentrations of the parameters exceeding Table 2 SCS are shown in red text on the respective plan view and cross-sectional figures.

The following subsections discuss the soil and groundwater conditions found exceeding the Table 2 SCS on the Phase Two Property.

Other Regulated Parameters

EC and SAR exceedances of the Table 2 SCS were identified in soil across most of the Site, apart from the northeastern portions of the 152 and 160 Wyndham Street North parcels. Exceedances of the Table 2 SCS were also identified in groundwater for sodium and chloride across most of the Site (all monitoring wells were sampled, apart from MW109).

Exceedances of EC and SAR in soil were identified to a maximum depth of 7.92 mbgs (MW102B) and were present at depths extending from the ground surface to the bedrock surface. Maximum concentrations were identified at MW102B (EC) and MW113 (SAR) in the fill. Maximum concentrations of chloride and sodium in groundwater were identified at the northern end of the Site in MW102B.



Figures 6-4 and 6-13 show the detected exceedances and locations analyzed for other regulated parameters for soil and groundwater, respectively.

The presence of EC and SAR in soil and sodium and chloride in groundwater is likely a result of the application of deicing materials on the parking lot surfaces (APEC-4). Section 49.1 of O. Reg. 153/104 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Environmental Protection Act when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice, or both, exceeds the SCS. Results are details in Tables 6-7c and 6-10c; at the discretion of the QPESA and based on the revised regulation, these parameters are not considered to be COCs at the Phase Two Property.

Metals (including Mercury, Methylmercury, and Hexavalent Chromium)

Based on the current investigation, metals exceedances of the Table 2 SCS in soil were identified within the southeastern portion of the Phase Two Property at one location (MW101; Figure 6-5) and were limited to lead and mercury. These impacts are likely limited to the fill in the existing laneways, based on results and observations during drilling and test pitting activities, and extend to an estimated maximum of 3.0 mbgs based on fill depth in this area (Figures 6-5a and 6-5b). The poor-quality fill was not observed at other locations.

Metals exceedances in groundwater were limited to cadmium. Exceedances occurred in two wells (MW107 and MW113) in the southwestern corner of the site (Figure 6-14), with maximum concentrations (6.16 μ g/L) found at MW113 (screened in the bedrock aquifer at 5.3 to 8.4 mbgs). The cadmium exceedances at these locations have been vertically delineated by MW107B (screened in the deep bedrock, at 13.7 to 15.5 mbgs), where concentrations were less than the Table 2 SCS (Figures 6-14a, 6-14b, and 6-14c).

Based on groundwater flow around monitoring wells MW107 and MW113, groundwater moves from these locations towards the southeastern portion of the Site. MW110A and MW101, located downgradient from the identified cadmium exceedances, have cadmium concentrations less than the Table 2 SCS. The identified cadmium impacts in groundwater are therefore not anticipated to migrate offsite.

Additional available downgradient data from MW106 (5.5 to 8.5 mbgs), which is located offsite, on adjacent City-owned property to the south, had reported concentrations of cadmium five times less than the Table 2 SCS. This, along with reported concentrations less than the Table 2 SCS at MW101 and MW110A, indicate onsite exceedances in groundwater are not likely migrating offsite to the nearest downgradient human receptors.

Metals exceedances in soil (lead and mercury) were identified within the fill (that is, not within native soils) and are potentially associated with historical industrial activities associated with the manufacturing of sewing machine accessories, and wire coils and springs (APEC-1) or general impacts associated with the fill identified onsite (APEC-2). Limited impacts were identified in groundwater at the Site (cadmium), which do not appear to correlate to the identified shallow metal impacts in soil. Therefore, it is unlikely that metal impacts in soil are acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property. The onsite cadmium impacts may be related to the APECs associated with offsite and upgradient PCAs (to the west) (for example, APEC-11 for Industrial Operations, APEC-12 for Historical Automotive Garage) or other unknown sources.

Polycyclic Aromatic Hydrocarbons

PAH exceedances of the Table 2 SCS in soil were identified at one sample (historical BH-14, at 0.8 to 1.4 mbgs) within the west-central portion of the Site, containing an elevated concentration of dibenzo[a,h]anthracene within the fill materials. No exceedances of the Table 2 SCS were identified in native soils or in groundwater at the Site.



BH208 was advanced and sampled in the same location as historical BH-14, with PAH samples collected at 0.91-1.07 mbgs and 2.29 to 2.44 mbgs. The results were less than the Table 2 SCS, resulting in the combined average of the samples collected at the same depth interval also meeting the Table 2 SCS. It is the QPESA's opinion that the historical exceedance was likely related to the presence of asphalt directly above the sampling location and is not considered representative of soil conditions on the Site (Table 6-7c). PAHs are not considered a COC on the Phase Two Property.

Figures 6-8 and 6-17 show locations investigated for PAHs in soil and groundwater, respectively, in plan view.

Volatile Organic Compounds

Concentrations of chloroform in groundwater samples were reported exceeding the SCS, and the source of the exceedance was believed to be related to the municipal water that was used during the bedrock coring process. Jacobs encountered similar issues during a previous drilling program in Guelph in 2018. For that project, two samples (one from the water truck and one from the water truck hose that was used during the coring activities) were analyzed for VOCs. The VOCs were nondetect in the municipal water samples, apart from bromodichloromethane (12.5 to 12.9 μ g/L), dibromochloromethane (11.5 to 11.8 μ g/L), and chloroform (9.8 to 10.1 μ g/L). These analytes are trihalomethanes that are typically present in municipally treated water, substantiating that municipal water introduced during drilling activities was the likely source of trihalomethanes in groundwater. For the current project, VOCs were nondetect in groundwater apart from the same three analytes, and from one sample with low detections of 1,1-dichloroethane less than the Table 2 SCS.

Based on the available information, the QPESA determined there was a discharge of drinking water (within the meaning of the *Safe Drinking Water Act* [2002]), resulting in chloroform exceeding the SCS. Under Paragraph 2 of Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act. Results are detailed in Table 6-10c, and at the discretion of the QPESA and the revised regulation, chloroform was not considered to be a COC for the Phase Two ESA.

6.10.5.2 Migration of Contaminants of Concern

COCs in soil were limited to lead and mercury in the fill unit, with no exceedances of the Table 2 SCS identified below approximately 3.7 mbgs (Figure 6-5b). As the minimum water table in the bedrock at the Site was measured at 5.82 mbgs, soil impacts are above the water table (Figure 6-5b); therefore, the potential for migration is limited.

Groundwater exceedances of the Table 2 SCS were limited to cadmium in two locations (MW113 and MW107) along the southern and western boundaries, respectively, where a groundwater high is located with radial groundwater flow from this area. Cadmium meets the Table 2 SCS at MW107B, providing vertical delineation for MW107 and MW113, along with two other wells (MW110B and MW111) screened in the deeper unconfined bedrock. Cadmium impacts have not been identified in downgradient or cross-gradient locations (MW105, MW100, MW110, and MW101 [Figure 6-14]), including available data from an offsite well (MW106) located adjacent to the southern edge of the property boundary. Based on this information, it is unlikely that the impacts are migrating off the Phase Two Property and the Site therefore meets the MECP drinking water component value (GW1) at the nearest offsite human receptors.

As there is no apparent soil source of the cadmium impacts onsite and groundwater impacts are found in the most upgradient locations onsite, these may be a result of migration from offsite sources from the west, or other urban fill (offsite); however, there is currently no direct evidence to confirm.



6.10.5.3 Climatic Conditions

Climatic or meteorological conditions that may have influenced the distribution and migration of COCs at the Phase Two Property include temporal fluctuations in groundwater levels. No atypical weather events that would be expected to influence COC transport are known to have occurred during Jacobs' investigation of the Phase Two Property. Changes in water elevations can affect the migration of contaminants.

6.10.5.4 Soil Vapour Intrusion

Vapour intrusion was not evaluated during this Phase Two ESA. No buildings are currently located on the Site. Buildings are planned as part of the redevelopment, but Jacobs understands all soil at the Phase Two Property will be removed to bedrock to facilitate the creation of underground parking. Therefore, soil vapour related to the existing concentrations in soil onsite will not be a concern under these future conditions.

Current or abandoned utilities may be a preferential pathway for potential contaminants, if present; however, as the utilities would be expected to be found in the depths corresponding to the presence of permeable fill and native sand and gravel (as discussed), the utility corridors are not expected to function as preferential pathways at the Phase Two Property.

6.10.6 Distribution of Contaminants

As Section 3 discussed, only metals in soil and groundwater exceeded the Table 2 SCS. As Figure 6-5 shows, soil exceedances for lead and mercury are limited to the southeastern corner of the Site. Similarly, groundwater exceedances of cadmium are localized to the southwestern portion of the Site (Figure 6-14). Cross-section Figures 6-5a and 6-5b for soil, and Figures 6-14a through 6-14c for groundwater, provide the vertical distribution of the metal exceedances at the Site and the water table elevations. In soil, metals exceedances are inferred to extend to approximately 3.5 mbgs within the fill, while in groundwater exceedances are inferred to extend to approximately 14.0 mbgs.

Figures 2-2a and 2-2b show building outlines and identified underground utilities on the Phase Two Property, respectively. As depth to utilities are unknown, these were not included on the applicable cross-section figures.

6.10.7 Contaminant Exposure Assessment

Figures 6-20a-b and 6-21a-b present the human health and ecological contaminant pathway and receptor models, respectively, based on current and potential future Site conditions. Figures 6-20a and 6-20b present the human health CSMs, with and without risk management measures, respectively. Figures 6-21a and 6-21b present the ecological conceptual site models, with and without risk management measures, respectively. The proposed future land use of the Site is residential, commercial, community, and institutional. The models present preliminary assessments of the exposure pathways that were further investigated as part of the risk assessment completed for the Phase Two Property (Jacobs 2020).

These figures identify the following five exposure pathways:

- 1) Release mechanisms The Phase Two Property became impacted as a result of historical Site operations (refer to the discussion on PCAs and APECs), when COCs were released to the ground (for example, via a spill or leak) or when contaminated soil was imported to the Site and placed as fill.
- 2) Contaminant transport pathways COCs released to soil may adsorb to soil or infiltrate deeper into the soil column. COCs in soil may also desorb and leach to groundwater or migrate vertically to the water table. COCs in soil can also be transported in the following ways: they can become airborne via wind or traffic erosion, be eroded by overland water flow, be taken up by vegetation planted in the soil, or volatilize to



outdoor air or indoor enclosed spaces. COCs in groundwater can be transported via vertical or horizontal groundwater flow, volatilization to outdoor air or indoor enclosed spaces, and uptake by vegetation.

- 3) **Human and ecological receptors located on, in, or under the Phase Two Property** Receptors currently present or expected to be present in the future at the Phase Two Property include:
 - Human Receptors residents, visitors, indoor workers, outdoor workers, construction workers, and utility workers
 - Ecological Receptors soil organisms, terrestrial plants, birds, and mammals
- 4) Receptor exposure points COCs can be contacted directly in soil or indirectly in outdoor and indoor air. COCs were not identified in groundwater.
- 5) Routes of exposure The primary routes of exposure by receptor type include:
 - Human Receptors
 - Direct contact with potable groundwater (ingestion or direct contact)
 - Direct contact with either soil or groundwater (incidental ingestion and dermal contact)
 - Inhalation of particulates (dust)
 - Inhalation of volatiles originating from a soil or groundwater source (indoor and outdoor air)
 - Ingestion of garden produce
 - Ecological Receptors
 - Direct contact with either soil or groundwater (ingestion and dermal)
 - Terrestrial plant root uptake from either soil or groundwater
 - Ingestion via terrestrial biota and prey

6.10.8 Nonstandard Delineation

Nonstandard delineation per O. Reg. 153/04 Schedule E, Section 7.1, was not conducted at the Site. Delineation was conducted to the requirements of O. Reg. 153/04 Schedule E, Section 7, for all COCs identified at the Site in soil and groundwater.

6.10.9 Reliance on Exemption on Site Condition Standard Exceedances

EC, SAR, sodium, chloride, and chloroform exceeded the Table 2 SCS; however, were not considered to be COCs at the Property based on the exemptions in Section 49.1 of O. Reg. 153/04 for meeting the site condition standards.

EC, SAR, chloride, and sodium were found widespread across the majority of the Site, at elevated concentrations. As the Site currently is in use as a commercial parking lot and laneway, the presence of EC, SAR, chloride, and sodium are related to the application of salt on the parking lot surface during winter conditions. The application of salt has been used for the safety of vehicular and pedestrian traffic. Under Paragraph 1 of Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the *Environmental Protection Act* should a substance be applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Therefore, at the discretion of the QPESA, EC and SAR were not considered to be COCs for the Phase Two Property.

Concentrations of chloroform in groundwater exceeded the SCS, and the source of the exceedance was believed to be related to the municipal water that was used during the bedrock coring process. Based on a similar issue for a separate City project in 2018, water samples from the water truck and hose used during the coring activities reported elevated trihalomethanes: bromodichloromethane (12.5 to 12.9 μ g/L), dibromochloromethane (11.5 to 11.8 μ g/L), and chloroform (9.8 to 10.1 μ g/L). These analytes are trihalomethanes that are typically



present in municipally treated water, substantiating that municipal water introduced during drilling activities was the likely source of trihalomethanes in groundwater.

Based on the available information, the QPESA determined there was a discharge of drinking water (within the meaning of the *Safe Drinking Water Act*, 2002), resulting in chloroform exceeding the SCS. Under Paragraph 2 of Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act. Therefore, at the discretion of the QPESA, chloroform was not considered to be a COC for the Phase Two ESA.

6.10.10 Reliance on Exemption Related to Excess Soils

Jacobs did not rely on Paragraph 3 of Section 49.1 of the revised O. Reg. 153/04.



7. Conclusions

Jacobs offers the following conclusions, based on the findings of the Phase Two ESA.

7.1 Site Characterization

Most of the soil beneath the Phase Two Property was found to be impacted with salt-related parameters (EC and SAR in soil; sodium and chloride in groundwater). Limited localized metal impacts were also present (lead and mercury in soil; cadmium in groundwater).

The presence of elevated EC and SAR in soil and sodium and chloride in groundwater is widespread across the majority of the Site, and is related to the application of de-icing materials on the parking lot surfaces (APEC-4). Section 49.1 of O. Reg. 153/104 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the *Environmental Protection Act* when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice, or both, exceeds the SCS. Therefore, at the discretion of the QPESA and based on the revised regulation, these parameters were not considered to be COCs at the Phase Two Property.

Metals exceedances in soil were identified within the southeastern portion of the Phase Two Property at one location (MW101) and were limited to lead and mercury. These impacts are likely limited to the fill in the existing laneways, based on results and observations during drilling and test pitting activities, and extend to an estimated maximum of 3.0 mbgs based on fill depth in this area. The poor-quality fill was not observed at other locations.

Metals exceedances in groundwater were limited to cadmium. Exceedances occurred in two wells (MW107 and MW113) in the southwestern corner of the site, with maximum concentrations found at MW113 screened in the bedrock aquifer (at 5.3 to 8.4 mbgs). The cadmium exceedances at these locations were not shown to extend vertically to MW107B (screened in the deep bedrock, at 13.7 to 15.5 mbgs). Based on groundwater flow around monitoring wells MW107 and MW113, groundwater moves from these locations towards the southeastern portion of the Site. Results from MW110A and MW101 (less than the Table 2 SCS), located downgradient from the identified cadmium exceedances, indicate the cadmium impacts in groundwater are not anticipated to migrate offsite.

Cadmium impacts may be related to the APECs associated with offsite and upgradient PCAs (to the west) (for example, APEC-11 for Industrial Operations and APEC-12 for Historical Automotive Garage) or other unknown sources.

Based on extensive sampling over the Phase Two Property, it has been concluded that the horizontal and vertical extents of soil and groundwater impacts have been sufficiently defined for Phase Two purposes, as well as to support the RA and an evaluation of risk management measures.

7.2 Phase Two Property Certification

Based on the results of the Phase Two ESA, concentrations of contaminants in soil and groundwater at the Phase Two Property did not meet the applicable standards. Property-specific standards were developed as part of an RA for the Phase Two Property (MGRA1896-20, IDS# 7882-BRYP6L), which was accepted by the MECP. Therefore, as of the certification date of April 29, 2020, the concentrations of contaminants in soil and groundwater at the Phase Two Property meet the property-specific standards as defined in the RA (Jacobs 2020). An RSC can be developed and submitted to the MECP, to permit the proposed change in land use for the Site.



7.3 Signatures

7.3.1 Report Preparation Procedures

This report was prepared by Ms. Victoria Peters, B.A.Sc., GIT, under the supervision of Ms. Tania McCarthy, P.Eng. QPESA. Senior technical review was conducted by Mr. Ed Taves, M.Sc., P. Geo. (Limited), QPESA.

The findings and conclusions of this report were supervised and reviewed by the undersigned QP.

As QPESA, I (Tania McCarthy) confirm I have supervised the carrying out of the Phase Two ESA, findings, and conclusions of this report.

As Senior Technical Reviewer for this report, I (Ed Taves) confirm I have completed a technical review of the Phase Two ESA and concur with the findings and conclusions of this report.

Sincerely,

Victoria Peters, B.Sc.Env., GIT

Site Assessor

Ed Taves, P.Geo. (Limited), QPESA

Project Manager and Senior Technical Reviewer

Tania McCarthy, P.Eng., QPESA Site Assessor



8. References

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XCG Environmental Services Inc. 1993. *Guelph Hydro Phase I/Phase 2 Environmental Audits of Five Transformer Station Properties.* Prepared for Guelph Hydro. November.

XCG Consultants Limited. 2008. *Phase II Environmental Site Assessment, Baker Street Redevelopment Site, Guelph, Ontario*. Prepared for The City of Guelph. December 19.



9. Limitations

This Phase Two ESA for the property municipally identified as 55 Baker Street, 152 Wyndham Street North, 160 Wyndham Street North, and the right-of-way known as Park Lane in Guelph, Ontario, was prepared for the City's exclusive use. Third parties cannot rely upon the findings and conclusions presented in this report without the express written consent of Jacobs and the City through an extension of reliance using a reliance letter signed by both parties. Jacobs accepts no responsibility for damages, if any, incurred by any third party as a result of decisions made or actions based on this report.

Note, Phase Two ESAs completed in accordance with the O. Reg. 153/04 have inherent limitations. The findings and conclusions regarding impacts at the Site are based solely on the extent of observations and information gathered during the Phase Two ESA.

The environmental characterization data were collected in general accordance with O. Reg. 153/04 – following the Phase One and Two ESA procedures. The sampling work was completed using standard engineering and scientific judgement, principles, and practices. The findings and conclusions regarding the contamination of the property are based solely on the extent of observations and information gathered during the Phase Two investigations. There are inherent limitations to this type of investigation.

The soil, groundwater, and environmental conditions, events, and observations described in this report are those observed at the time of the investigation. Environmental Site conditions vary. Interpretations of groundwater levels and flow direction are based on water level measurements at selected monitoring well locations and are expected to fluctuate. Borehole and monitoring well observations indicate the approximate subsurface conditions at those locations only. Boundaries between zones are often not distinct; rather, they may be transitional and were interpreted. Subsurface conditions between boreholes, monitoring wells, and sampling locations were inferred and may vary significantly from conditions encountered at those locations.

The City should be aware that, with the nature of this type of work, there are inherent limitations, as outlined in the CSA Group Standard (CAN/CSA-Z769-00), Section 3.9.2:

Even when Phase II work is executed with an appropriate standard of care, certain conditions such as substances of concern that are under buildings or of low mobility, can present especially difficult detection problems.

It shall be recognized that samples taken represent one discrete portion of any Site at any given time, and may or may not be representative of the entire Site or the portion in question.

The findings of these characterization activities are based on observations and findings recorded by Jacobs during Site visits and reconnaissance, and also on data and information provided by the City and third parties; this information was not independently verified by Jacobs, and Jacobs has assumed this information to be accurate, complete, reliable, noninfringing, and fit for the intended purpose.

This is a technical report and is not a legal representation or interpretation of environmental laws, rules, regulations, or policies of governmental agencies.

The investigation activities were formed on historical reports and the information gathered during the Phase One ESA activities. However, Jacobs cannot warrant or guarantee that the information provided in this summary is absolutely complete or accurate beyond current environmental engineering consulting standards. Jacobs assumes no responsibility for conditions that it was not authorized to investigate or that were not within its specific scope of work.



Jacobs believes this report to be accurate; however, Jacobs disclaims any warranty of the completeness or accuracy of information supplied to Jacobs that was relied upon in the preparation of this report.

All findings and conclusions stated in this summary are based on facts and circumstances as they existed during the investigation. Any changes in fact or circumstances upon which the summary was based may change the findings reported. Jacobs cannot report on, or accurately predict, events that may change the Site conditions after the described investigation was completed.

Other considerations and limitations applicable to this Phase Two ESA also include the following.

9.1 Standard of Care and Limitation of Liability

- a) Jacobs' services are governed by the negligence standard for professional services, measured as of the time those services are performed.
- b) Jacobs shall not be liable to the City for any damages where it has exercised a reasonable standard of care.

9.2 No Third-party Beneficiaries

- a) This Phase Two ESA Report gives no rights or benefits to anyone other than the City and Jacobs and has no third-party beneficiaries. All work products prepared are for the sole and exclusive use of the City for specific application to the property described in the Agreement, is not for the benefit of any third party, and may not be distributed to, disclosed in any form to, used by, or relied upon by any third party without the prior written consent of Jacobs, which consent may be withheld in its sole discretion.
- b) No warranty, expressed or implied, is made regarding the services performed.
- c) If the City requests Jacobs' consent for a third party to depend upon an ESA Report as part of the City's financing efforts or in connection with decisions regarding redevelopment, sales, or acquisitions, such consent will be considered given upon the third party's execution of a Reliance Letter as provided by Jacobs.

9.3 Existing Site Conditions

- a) Any opinions or recommendations presented apply to Site conditions existing when services were performed. Jacobs cannot report on or accurately predict events that may change the Site conditions after the described services are performed, whether occurring naturally or caused by external forces.
- b) Jacobs assumes no responsibility for conditions we are not authorized to investigate, or which are not in our specific Scope of Work. Unknown contamination may be exposed during excavation.
- c) Jacobs' services shall not include an independent verification of the quality of work conducted and information provided by independent laboratories or other independent contractors retained by Jacobs in connection with Jacobs' services.

In preparing this Phase Two ESA, Jacobs relied, in whole or in part, on data and information provided by the City and third parties, which information was not independently verified by Jacobs, and which Jacobs has assumed to be accurate, complete, reliable, and current. Therefore, while Jacobs has utilized its best efforts in preparing this Phase Two ESA, Jacobs does not warrant or guarantee the conclusions set forth in this Phase Two ESA that are dependent or based upon data, information, or statements supplied by third parties or the City.

Tables

Table 3-1. Summary of Environmental Reports

55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario

Summary	Field Program	Field Program Results and Other Observations	Data or Information Relied Upon?	Steps Take to Ensure Data or Information is Reliable or Updated (Screening Data)
XCG Environmental Services Inc. 1993. Gu	elph Hydro Phase I/Phase 2 Enviro	nmental Audits of Five Transformer Station Properties. Prepared for G	uelph Hydro. November.	
Soil samples were collected from within transformer compounds specifically between transformer bases or between the transformer base and entrance gates. Transformer Station MS12 is associated with the Phase Two Property.	 One soil sample (SA9) analyzed for PCBs and Metals 	 PCBs in soil exceed the current Table 2 SCS Metals (Cd, Cu, Zn) exceed the current Table 2 SCS 	 PCB data may not represent current conditions as Kewen report (2001) indicates "cleanup" activities. Data used for screening only. Metals soil data is not considered suitable for RSC purposes. Data used for screening only. 	 Additional soil samples collected at and in the vicinity of SA9 (BH200 and BH209) and analyzed for PCBs. Additional soil samples collected at and in the vicinity of SA9 (BH200 and BH209) and analyzed for metals to update previous results.
Kewen Environmental Limited. 2001. Baker	r Street Parking Lot, City of Guelph,	Ontario, Phase II Environmental Site Assessment. Prepared for The C	ty of Guelph. August 7.	
Investigation in follow-up to a Phase One ESA. Eleven boreholes and three monitoring wells were advanced. Report indicates that the transformer station was removed in 1989 and that "cleanup" activities were completed around the former transformers in 1998. Two of the three monitoring wells installed were dry.	 Two soil samples analyzed for VOCs Eleven soil samples analyzed for pH, EC, and metals One groundwater sample analyzed for metals, sodium, chloride, and general chemistry 	 VOCs in soil meet the current Table 2 SCS Soil pH greater than 9 in five surface samples EC in soil exceed the current Table 2 SCS (9 samples) Pb and Zn in soil exceed the current Table 2 SCS (2 samples) Metals in groundwater met the current Table 2 SCS, with the exception of antimony; sodium and chloride exceed the current Table 2 SCS (1 sample) 	 VOC soil data is not considered suitable for RSC purposes. Data used for screening only. Soil pH and EC data is not considered suitable for RSC purposes. Data used for screening only. Metals soil data is not considered suitable for RSC purposes. Data used for screening only. Groundwater data from 2001 is not considered suitable for RSC purposes as it is not representative of current conditions. Data used for screening only. 	 Additional soil analysis for VOCs, pH, EC, and metals has been conducted across the Site to confirm the presence of absence of historical impacts under current conditions using O. Reg. 153/04 protocols. Additional groundwater analysis for metals, sodium, and chloride has been conducted across the Site to confirm the presence or absence of historical impacts under current conditions using O. Reg. 153/04 protocols.
XCG Consultants Limited. 2008. Phase II En	nvironmental Site Assessment, Bak	er Street Redevelopment Site, Guelph, Ontario. Prepared for The City o	f Guelph. December 19.	
Investigation in follow-up to a Phase One ESA. Twenty boreholes and seven monitoring wells were advanced.	 Eight soil samples analyzed for BTEX and VOCs Twenty soil samples analyzed for metals (excluding uranium) Four soil samples analyzed for PAHs and PCBs Sixteen samples analyzed for PHCs Nineteen soil samples analyzed for pH Eleven groundwater samples for BTEX, VOCs, Metals, sodium, and PHCs One groundwater sample for PCBs 	 BTEX and VOCs in soil meet the current Table 2 SCS Lead in soil exceed the current Table 2 SCS (2 samples) PAHs in soil exceed the current Table 2 SCS (1 sample) PCBs in soil meet the current Table 2 SCS PHCs in soil exceed the current Table 2 SCS (1 sample) Soil pH greater than 9 in two surface samples BTEX and VOCs in groundwater meet the current Table 2 SCS Ba (1 location), Cd (1 location), and Co (1 location) in groundwater exceed the current Table 2 SCS Sodium (9 locations) in groundwater exceed the current Table 2 SCS PHC F4 in groundwater (1 location) exceed the current Table 2 SCS PCBs in groundwater meet the current Table 2 SCS 	 All soil data from this investigation, apart from the pH data, is considered suitable for RSC purposes. Metals data is missing uranium analysis, but is considered suitable for RSC purposes. Groundwater data from 2008 is not considered suitable for RSC purposes as it is not representative of current conditions. Data used for screening only. 	 Review of borehole logs indicates that concrete or brick fragments may have been included in soil samples submitted for pH. Therefore, soil pH results may be biased high and not representative of actual conditions. Additional soil analysis for pH has been conducted across the Site as part of the current investigation. COAs are available for all soil samples. All soil analysis was completed using O. Reg. 153/04 protocols applicable at the time of the investigation. Uranium was not regulated under O. Reg. 153/04 at the time of investigation and is missing from the Metals analysis suite. Uranium has not been specifically identified as a COC for the Site. As such, the Metals analysis from the 2008 investigation is considered usable and reliable. Additional soil sampling for uranium has been conducted across the Site as part of the current investigation. Additional groundwater analysis for metals, sodium, and PHCs has been conducted across the Site to confirm the presence or absence of historical impacts under current conditions using O. Reg. 153/04 protocols.

Notes:

Ba = barium

BTEX = benzene, toluene, ethylbenzene, and xylenes

Cd = cadmium

COA = certificate of analysis

COC = contaminant of concern

Cu = copper

EC = electrical conductivity

ESA = environmental site assessment

mbgs = metre(s) below ground surface

MECP = Ontario Ministry of the Environment, Conservation and Parks

O. Reg. = Ontario Regulation

PAHs = polycyclic aromatic hydrocarbons

Pb = lead

PCBs = polychlorinated biphenyls

PHCs = petroleum hydrocarbons

RSC = Record of Site Condition

SCS = site condition standard

VOCs = volatile organic compounds

Zn = zinc

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Table 4-1. Phase One Conceptual Site Model

Phase One ESA Summary, 55 Baker Street, 152, 160 Wyndham Street North and Park Lane, Guelph, Ontario

Thase one Estimation, oo bar	Rer Street, 152, 160 Wynanam Street North and Park Lane, Guetph, Ontario
Phase One CSM Element	Summary
Existing Buildings and Structures	No buildings exist on the Phase One Property. The Site consists of two asphalt parking lots (55 Baker Street, 152 and 160 Wyndham) and an asphalt laneway (Park Lane).
Identify Water Bodies in the Phase One Study Area	The Speed River is located approximately 130 to 150 m north-northeast of the Phase One Property.
Areas of Natural Significance	No areas of natural significance were identified within the Phase One Study Area.
Presence of Drinking Water Wells	No drinking water wells were identified on the Phase One Property. The Site and surrounding properties are serviced with potable water obtained from municipal groundwater supply wells located within the City of Guelph. Water wells within 500 m of the Site listed in the Ontario Water well records database are shown on Figure 6 of the Phase One ESA Update (Jacobs, 2021).
Identify Roads within the Phase One	Figure 7 of the Phase One ESA Update (Jacobs, 2021) presents the roadways and land uses within the Phase One Study Area.
Adjacent Property Uses	Figure 7 of the Phase One ESA Update (Jacobs, 2021) and Figure 3 of the Phase One ESA (Pinchin 2018) presents the adjacent property use: • To the north: commercial/industrial and residential • To the east: commercial/industrial and mixed use residential/commercial • To the south: residential, commercial/industrial and mixed use residential/commercial • To the west: residential, commercial/industrial and mixed use residential/commercial
Identify PCAs in the Phase One Study Area	A total of 129 PCAs were identified in the Phase One Study Area and are shown on Figure 4-1a and 4-1b along with approximate locations of historical USTs. Details and descriptions of the PCAs are provided in Table 4-2, and indicate which PCAs result in an APEC.
Identify APECs	The Phase One ESA (Pinchin, 2018) and Jacobs identified twenty-two APECs for the Phase One Property, eight attributable to onsite PCAs, and 14 attributable to offsite PCAs. APECs and are listed in Table 4-3 and shown on Figure 4-2.
COPCs	The COPCs identified by Jacobs from a review of the Phase One ESA (Pinchin, 2018) include metals (including hydride-forming metals), other regulated parameters (hot water soluble (HWS) boron, cyanide, EC, SAR, sodium, chloride, mercury, hexavalent chromium), VOCs, BTEX, PHCs, PAHs, dioxins/furans and ABNs.
Presence of Underground Utilities	Underground utilities on the Phase One Property provide electrical services to the light standards and pay meters, in addition to storm sewers which provide the drainage to the parking lots. The Site Representative indicated that a parking attendant building was recently demolished in 2016 on the west central portion of the property. The building was serviced by municipal water and was connected to the sanitary sewer system. Additionally, several buildings were historically present on the Phase One Property as shown on Figure 2-2a. It is unclear if utilities associated with these former buildings remain on the Phase One Property. Estimated depths of the utilities are 1 mbgs for electrical utilities, and 3 mbgs for storm sewers. Previous reports indicate that groundwater was encountered at depths of approximately 3.5 to 8.9 mbgs, therefore utility corridors are expected to be present above the water table and would not act as a preferential pathway for contaminant distribution and transport. It is unclear if historical utilities resulting from the historical industrial use on the Phase One Property are still present. Known utilities are presented on Figure 2-2b.
Regional/Local Geology	The Phase One Property and surrounding properties are located within the physiographical area identified as the Guelph Drumlin Field. Glacialfluvial outwash deposits of sands and gravel occur, underlain in places by fine-graines silts and clays, overlying dolostone bedrock. Native subsurface materials encountered during previous investigations (XCG, 2008), consisted of silty sand, silt and gravel, cobbles, sand and silt. No bedrock outcrops were observed on Site or in the surrounding area. Based on information provided in previous investigations (XCG, 2008), the overburden thickness ranges between approximately 4.3 and 7.3 m.
Regional/Local Hydrogeology	The Phase One Property is relatively flat, with a slight slope to the south. The surrounding area slopes gradually to the south and east towards the Speed River as shown on Figure 3-1. The Speed River is located 130 m north-northeast and 440 m east of the Site, and flows southeast and discharges into the Grand River located approximately 19 kilometres south of the Site. Based on an elevation survey completed as part of previous investigations (XCG, 2008) the groundwater at the Site flows in an east-southeast direction towards the Speed River.
Uncertainties Affecting the Validity of Phase One CSM	On the basis of the uncertainties presented within the Phase One ESA report, it is possible that a PCA/APEC or land use has not been identified within the individual components of the Phase One ESA. Information was gathered from numerous sources (that is, aerial photographs, City Directories, database searches, historical reports, interviews, and site reconnaissance), which decreases the chance that a major PCA or land use was not identified in this Phase One ESA. Many aspects of the CSM have been previously studied and verified through subsurface investigations (for example, groundwater flow direction); these aspects are not directly affected by the noted uncertainties: Quality of aerial photographs may not allow some features to be clearly identified, and professional judgment was used to relate the historical features identified in the aerial photographs to present day locations Municipal addresses are known to change Information provided by interviewed individuals, could be based on hearsay or personal opinion

Notes:

This Phase One Conceptual Site Model was prepared by Jacobs based on the Phase One Environmental Site Assessment prepared by Pinchin (2008) and the information reviewed as part of the Phase One ESA (Jacobs 2021) Update.

ABN = Acid base neutral mbgs = metre(s) below ground surface

APEC = Areas of Potential Concern PAH = Polycyclic aromatic hydrocarbon

BTEX = benzene, ethylbenzene, toluene and xylenes PCA = Potentially Contaminating Activity

COPC = Contaminant of Potential Concern Phase One Property = 55 Baker Street, 152 and 160 Wyndham Street N, Park Lane

CSM = Contaminant of Potential Concern

CSM = Contaminated Sites Model

PHC = Petroleum hydrocarbon

EC = electrical conductivity

SAR = sodium adsorption ratio

ESA = Environmental Site Assessment

UST = underground storage tanks

masl = metre(s) above sea level

VOC = volatile organic compound(s)

masl = metre(s) above sea level

VOC = volatile organic compound(s)

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Dotonti	ally Contaminating Activity (PCA)	PCA		Property	Location of	DCA lasta	D . lite		1.6
7 0tentia 1)	atty Contaminating Activity (PCA)	Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Address / Location of PCA Onsite	PCA (3)	PCA results in APEC	APEC	Rationale ⁽⁴⁾	Information Source
34	Metal Fabrication	1	Historical Industrial Property Use - Coil wire springs (J. Steele Ltd. / Steele's Wire Spring Ltd.) sewing machines (Raymond Manufacturing Co. Ltd./ White Sewing Machine Co. of Canada), and accessories were historically manufactured at 55 Baker Street.	North and Central Portions of Parcel A	Onsite	YES		PCA on the Phase One Property	FIP
30	Importation of Fill Material of Unknown Quality	2	Unknown/Poor Quality Fill Material – Fill material to 3.0 metres below ground surface (mbgs) was identified at 55 Baker Street in the XCG Phase II ESA (XCG 2008), and is also likely located at the Wyndham properties from demolition of historical buildings, based on when it was developed (1862).	Entire Phase One Property	Onsite	YES	APEC-02	PCA on the Phase One Property	HER
55	Transformer Manufacturing, Processing and Use	3	Historical Transformers – The 1960 FIP identified an area of 55 Baker Street labelled as 'transformers.'	East-Central Portion of Parcel A	Onsite	YES	APEC-03	PCA on the Phase One Property	FIP
48	Salt Manufacturing, Processing and Bulk Storage	56	Use of Road Salts at the Property – The Site is currently used as a parking lot and road salts are known to be applied for vehicular and pedestrian safety.	Entire Phase One Property	Onsite	YES	APEC-04	PCA on the Phase One Property	SR
37	Operation of Dry Cleaning Equipment (where chemicals are used)	5	Historical Dry Cleaning - Potential dry cleaners were identified at 164-166 Woolwich Street on FIPs (1929, 1946). The building is labeled as "Cleaning & Dyeing" on the 1929 FIP with a small area in the back labeled "Dry Cleaning. The 1946 FIP has the building relabeled as "Clothes Cleaning". City directories list Card, JM Co. Cleaners and Dyers and Woolwich Cleaners and Tailors at 164-166 Woolwich between 1917 and 1955.	164-166 Woolwich Street	Offsite	YES		Hydraulically downgradient, but adjacent to the Phase One Property	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	4	Historical Retail Fuel Outlet – operations were identified at 160 Woolwich Street and showed four associated gasoline USTs fronting on Woolwich on the 1929 FIP, and two gasoline USTs on the 1960 FIP.	160 Woolwich Street	Offsite	YES	APEC-06	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
32	Iron and Steel Manufacturing and Processing	78	Historical Iron Foundry - The 1878 FIP shows W.H. Mills Stove Mfg at the southwest corner of Woolwich and Wyndham	Corner of Woolwich and Wyndham Streets	Offsite	YES	APEC-06	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	79	Historical Garage - a building labeled 'Garage & Repairs' is identified on the 1929 and 1946 FIPs at 160 Woolwich Street. Newstead and Nicholas Garage (automotive repair/servicing) is listed in the city directories in 1930.	160 Woolwich Street	Offsite	YES	APEC-06	Hydraulically downgradient, but adjacent to the Phase One Property	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	80	Historical UST - two gasoline USTs are identified on Baker Street, on the west side of the building at 164-166 Woolwich (Cleaning & Dyeing) on the 1929 FIP	164-166 Woolwich Street / Baker Street	Offsite	YES	APEC-06	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	12	Potential Historical Dry Cleaning - "Chinese Laundry" was located at 152 Woolwich Street from at least 1911 to 1946 based on FIPs (1911, 1929, 1946) and city directories (Lee, Lee Laundry from 1917 to 1936). It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not	152 Woolwich Street	Offsite	YES	APEC-07	Hydraulically downgradient, but adjacent to the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	52	Historical Dry Cleaning - Potential dry cleaners (Langley's Ltd. Cleaners) were identified at 172 Wyndham Street North between at least 1930 and 1939 based on city directories.	172 Wyndham Street North	Offsite	YES		Hydraulically downgradient, but adjacent to the Phase One Property	CDL
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	76	Historical Garage - a building labeled 'Garage & Repairs' is identified on the 1929 FIP at 166 Wyndham Street North	166 Wyndham Street North	Offsite	YES	APEC-08	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	77	Historical UST - a gasoline UST is identified at 168 Wyndham Street North on the 1929 FIP, in the front of an building for auto accessories.	168 Wyndham Street North	Offsite	YES	APEC-08	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	13	Historical Fuel Oil Underground Storage Tank (UST) – A historical UST was identified at 176 Wyndham Street North along the west exterior wall (beside the garage and repairs building) on the 1960 FIP.	176 Wyndham Street North	Offsite	YES	APEC-09	Hydraulically downgradient, but adjacent to the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	53	Historical Automotive Repair – A historical automotive repair shop was identified at the back of 176 Wyndham Street on the 1960 FIP.	176 Wyndham Street North	Offsite	YES		Hydraulically downgradient, but adjacent to the Phase One Property	FIP
34	Metal Fabrication	8	Historical Offsite Industrial Operations - Industrial manufacturing and potential metal fabrication was noted along Yarmouth Street from as early as 1929. Cooke & Denison Machine and Tool Works was identified at 40 Baker Street on FIPs from 1929 to 1960.	40 Baker Street	Offsite	YES	APEC-11	Hydraulically upgradient and adjacent to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	9	Historical UST - One UST identified on the 1946 FIP on the southwest portion of 40 Baker Street.	South of #29-40 Baker Street	Offsite	YES	APEC-11	Hydraulically upgradient and adjacent to the Phase One Property	FIP

(1)	ally Contaminating Activity (PCA)				l				
20		Unique	Descriptions of DCAs (in Phase One ECA Communa (2)	Address / Location of	Location of PCA (3)	PCA results in	_	Rationale ⁽⁴⁾	Information
	Gasoline and Associated Products	<u>ID</u> 71	Descriptions of PCAs (in Phase One ESA Summary) (2) Historical Fuel Oil Tank – A historical above ground fuel oil tank was identified on the 1960 FIP between the	PCA Onsite 25 Yarmouth Street / 32		APEC YES	APEC APEC-11	Hydraulically upgradient and adjacent to the Phase	Source FIP
28	Storage in Fixed Tanks	71	Cooke & Denison and Austin Laboratories properties between 25 Yarmouth and 32-34 Baker Street.	34 Baker Street	onsite	YES	APEC-11	One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	6	Historical Automotive Garage – An automotive garage (Swanston L B Auto Repair and Heffernon Motor Car Co Garage) was identified at 45 Yarmouth Street from approximately 1929 to 1960 based on FIPs and City directories. A Record of Site condition record was noted to have been filed in July 2020 for a change from	. 45 Yarmouth Street / 52 Baker Street	Offsite	YES	APEC-12	Hydraulically upgradient and adjacent to the Phase One Property	FIP, ELE
28	Gasoline and Associated Products Storage in Fixed Tanks	7	Historical USTs - Two USTs identified on Yarmouth Street on the 1929 and 1946 FIPs were associated with the historical automotive repair/servicing operations at 45 Baker Street.	On Yarmouth Street/ behind 45 Yarmouth / 52 Baker Street	Offsite	YES	APEC-12	Hydraulically upgradient and adjacent to the Phase One Property	FIP
34	Metal Fabrication	70	Historical Industrial Operations - C. Raymond Sewing Machine Mfg./White Sewing Machine Co. of Canada is present between Yarmouth and Baker Streets on the 1878, 1892 and 1911 FIPs. Buildings include moulding shop, machine shop, iron storage, polishing and plating (3rd floor). Bridge and tunnels noted across Baker Street when operations expanded to the Site.	between Yarmouth and Baker Streets	Offsite	YES		Hydraulically upgradient and adjacent to the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	18	Historical Automotive Repair - Heffernan Motors, a historical garage, was identified at 146 Wyndham Street North (from approximately 1930 until 1946) based on city directories.	146 Wyndham Street North	Offsite	YES	APEC-13	Hydraulically upgradient/ transgradient and adjacent to the Phase One Property	CDL
other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	27	Historical Gasoline Spill – Base on database searches, a historical gasoline spill (80 Litres) at the intersection of Chapel Lane and Baker Street occurred in 2003, with possible environmental impact to land and water.	intersection of Chapel Lane and Baker Street	Offsite	YES	APEC-14	Hydraulically upgradient and adjacent to the Phase One Property	ELE
37	Operation of Dry Cleaning Equipment (where chemicals are used)	19	Potential Historical Dry Cleaning - potential dry cleaning operations were identified at 108 Wyndham Street North from 1917 to 1922 based on city directories (Gemmel & Co. Dyers and Cleaners).	108 Wyndham Street North	Offsite	YES	APEC-15	Hydraulically downgradient, but adjacent to the Phase One Property	CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	25	Historical UST - the 1946 FIP identified one UST under the roadway at 7 Quebec Street.	7 Quebec Street	Offsite	YES	APEC-16	Hydraulically upgradient/ transgradient to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	43	Historical Aboveground Storage Tank (AST): - Vent and fill pipes associated with an AST were observed at the corner of 20 Quebec Street, a southern adjacent property to the Site during the Pinchin Site Visit (in 2018).	20 Quebec Street	Offsite	YES	APEC-16	Hydraulically upgradient and adjacent to the Phase One Property	SR
28	Gasoline and Associated Products Storage in Fixed Tanks	50	Historical Service Station - A service station with 3 associated gasoline USTs is identified at the southwest corner of Suffolk and Yarmouth Streets (25 Suffolk) on the 1946 and 1960 FIPs. City directories list Regent C&H Service Station, at 27 Suffolk Street East in 1955.	27 Suffolk Street East	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	51	Historical Dry Cleaning Operation - Reliable Cleaners, a potential dry cleaning facility was listed at 84 Yarmouth Street in 1955 in city directories.	84 Yarmouth Street	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	CDL
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	55	Historical Automotive Repair - City directories list Hasting Motors, an automotive repair/servicing facility at 27 Suffolk Street East in 1955.	27 Suffolk Street East	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	CDL

		PCA		Property					
Potenti	ally Contaminating Activity (PCA)	Unique		Address / Location of	Location of	PCA results in	Resulting		Information
(1)		ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	PCA Onsite	PCA (3)	APEC	APEC	Rationale ⁽⁴⁾	Source
57	Vehicles and Associated Parts Manufacturing	81	Historical Coach and Body Manufacturing - Guelph Coach & Body is located at 9-21 Suffolk Street East on the 1946 FIP. Buildings include Auto accessories, glazing, upholstering, office, glass storage and printing.	9-21 Suffolk Street East	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	FIP
34	Metal Fabrication	82	Historical Industrial Property Use - Sewing machine manufacturing (Chas Raymond's Sewing machine Mfg) was indicated on the 1878 and 1892 FIP, located at the southeast corner of Suffolk and Yarmouth.	Suffolk and Yarmouth Street	Offsite	YES	APEC-17	Hydraulically upgradient/ transgradient to the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	57	Former Oil Shed – The 1911 FIP showed a small oil shed in the southwestern corner of the White Sewing Machine of Canada parcel of land on 55 Baker Street.	Southwest portion of 55 Baker Street	Onsite	YES	APEC-18	PCA on the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	58	Former Oil House – The 1911 FIP showed a small oil house on the former White Sewing Machine of Canada parcel, now the western portion of 152 Wyndham Street.	Western portion of 152 Wyndham Street North	Onsite	YES	APEC-19	PCA on the Phase One Property	FIP
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	59	Former Coke Storage – The 1911 FIP showed a garage located on the northeastern portion of 55 Baker Street.	Northeast portion of 55 Baker Street	Onsite	YES	APEC-20	PCA on the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	60	Former Garage – The 1960 FIP showed a garage located on the northeastern portion of 55 Baker Street.	Northeast portion of 55 Baker Street	Onsite	YES	APEC-21	PCA on the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	10	Historical UST - One UST identified within the northwest portion of 2 Baker Street (historically 22 Baker Street), in a building labeled 'auto' occupied by Guelph Creamery (1946 FIP).	2 Baker Street	Offsite	YES	APEC-22	Hydraulically upgradient and adjacent to the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	11	Historical Dry Cleaning - Ferguson's Cleaners, a potential dry cleaning operation was listed in the city directories at 2 Quebec Street in 1975.	2 Quebec Street	Offsite	YES	APEC-22	Hydraulically upgradient and adjacent to the Phase One Property	CDL
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	72	Former Coal Yard - A coal yard is identified on the northwest corner of Quebec and Baker Streets.	Quebec and Baker Street	Offsite	YES	APEC-22	Hydraulically upgradient/ transgradient of the Phase One Property	FIP
55	Transformer Manufacturing, Processing and Use	14	Transformer - One pad-mounted oil cooled transformer was identified during the Pinchin Site Visit (in 2018) on the west exterior portion of 138 Wyndham Street North. No staining was observed on the concrete slab in the vicinity of the transformer, and no evidence of leakage was observed during the Site reconnaissance.	Behind 138 Wyndham Street North	Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
28	Gasoline and Associated Products Storage in Fixed Tanks	15	Historical Service Station - a former auto servicing and refueling station was located at 145 Woolwich with 4 gasoline USTs located out front, on Woolwich Street. The service station existed from at least 1929 to 1960 based on the FIPs and city directories (Simpson, CT, Service Station).	145 Woolwich Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP, CDL
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	16	Historical Automotive Repair - Auto repair/servicing activities by Muller Bros were present at 135-139 Woolwich Street from at least 1936 until 1960 based on FIPs and city directories.	135-139 Woolwich Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	17	Diesel AST - One emergency diesel-fired emergency generator with an associated belly-tank was identified or the west exterior portion of 138 Wyndham Street North during the Pinchin Site Visit (in 2018). No staining was observed on the concrete slab in the vicinity of the emergency generator and no evidence of leakage was observed during the Site reconnaissance.		Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
31	Ink Manufacturing, Processing and Bulk Storage	20	Historical Printing Operation - Printing indicated in back of 90-96 Wyndham Street North on the 1929 and 1946 FIPs. City directories list Kelso Printing Co., at 96 Wyndham Street North in 1936.	96 Wyndham Street North	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	21	Potential Historical Dry Cleaning - "Chinese Laundry" was identified at 70 Wyndham Street North on the 1911 and 1916 FIP. Based on city directory searches, these operations were present until approximately 1922 under Young Wong Laundry. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	70 Wyndham Street North	Offsite	NO		Hydraulically transgradient, and distance is greater than 50 m from the Phase One Property	FIP, CDL

Potentia (1)	ally Contaminating Activity (PCA)	PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in	Resulting APEC	Rationale ⁽⁴⁾	Information Source
37	Operation of Dry Cleaning Equipment (where chemicals are used)	22	Potential Historical Dry Cleaning - "Chinese Laundry" was identified at 55-57 Quebec Street from approximately 1910 to 1946 based on FIPs and city directories (Lee Wing Laundry present from 1910 to 1939). It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	55-57 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	23	Potential Historical Dry Cleaning - "Cleaning and Pressing" at 49 Quebec Street on 1911 and 1916 FIPs, and Chas Kutt cleaner listed in the city directories from 1910 to 1916. It is noted that PCE was not being readily used in dry cleaning until the 1930s.	49 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	24	Potential Historical Dry Cleaning - Starkman Cleaning and Pressing, a potential dry cleaning operation was listed at 31 Quebec Street, from 1916 until 1917. It is noted that PCE was not being readily used in dry cleaning until the 1930s.	31-35 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	26	Potential Historical Dry Cleaning - a building labelled 'cleaning and pressing', a potential dry cleaning operation was identified at 17 Quebec Street in the 1946 FIP.	17 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	28	Historical Service Station and USTs - The 1929 and 1946 FIPs identified a gasoline UST at 88 Norfolk Street, ir front of the automotive garage on Norfolk Street. The 1960 FIP identifies a gasoline service station in place of the garage, with 3 USTs within the property and an associated address of 90 Norfolk Street.	Norfolk and Commercial Street (88 / 90 Norfolk Street)	. Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	29	Historical UST - the 1946 FIP identified one gasoline UST at 17 Quebec Street	behind 19-23 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	30	Potential Historical Dry Cleaning - "Chinese Laundry" was indicated at 13 Quebec Street on the 1916 FIP. The city directories indicate Ontario Laundry is present from 1917 to 1930. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.		Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	31	Historical Gasoline Service Station - a refueling station with 3 associated USTs is identified on the 1946 FIP at 46-48 Cork Street East.	46-48 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 50 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles		Historical Automotive Repair - a garage is identified on the 1916 to 1960 FIPs at 23-25 Cork Street East.	23-25 Cork Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	33	Historical UST - the 1929 to 1960 FIPs identify one UST in front of the garage at 23-25 Cork Street East	23 Cork Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	34	Potential Historical Dry Cleaning - "Chinese Laundry" was indicated at 34 Quebec Street on the 1911 FIP. Elm Bros Laundry was identified in the city directories at 34 Quebec Street from 1910 until 1916. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	34 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Based on the nature of the indicated services, the likelihood that the	FIP, CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	35	Historical Oil Cellar - Bond Hardware Co. Ltd. was located at 42-56 Wyndham Street North. This property was labelled on the 1892, 1911 and 1916 FIPs as containing an 'oil cellar under the sidewalk' at the northwest exterior corner of this building.	St. George Square	Offsite	NO		Hydraulically transgradient, and distance is greater than 50 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	36	Historical Printing Operation - Clark Printer, a historical printing operation was listed in city directories at 14 Wyndham Street North in 1901.	14 Wyndham Street North	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	CDL

Potentia	lly Contaminating Activity (PCA)	PCA Unique	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in Resultin	Rationale ⁽⁴⁾	Information Source
31	Ink Manufacturing, Processing and Bulk Storage	1 D 37	Historical Printing Operation - Turnbull Wright Co. Printers, a historical printing operation was listed in city directories at 13 Wyndham Street North in 1901.	13 Wyndham Street North	Offsite	NO APEC	Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	38	Historical UST - the 1946 FIP identified one UST at 106 Quebec Street	106 Quebec Street	Offsite	NO	Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	39	Historical Automotive Repair - 'Garage & Repairs' were identified in the 1946 FIP at 106 Quebec Street.	106 Quebec Street	Offsite	NO	Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
	Ink Manufacturing, Processing and Bulk Storage	40	Historical Printing Operation - Herald Printing, a historical printing operation was identified at 65 Quebec Street in the 1892, 1897, and 1911 FIPs.	65 Quebec Street	Offsite	NO	Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	41	Potential Historical Dry Cleaning - Based on city directories Sam Sing Landry, a potential dry cleaning operation was identified at 146 Quebec Street in 1917 until 1939. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	146 Quebec Street	Offsite	NO	Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	42	Potential Historical Dry Cleaning - Chinese Laundry, a potential dry cleaning operation was identified at 101 Quebec Street in 1910 until 1944 on city directories and on the 1911 FIP. It is noted that this laundry service was typically hand-laundry and not likely dry cleaning; in addition, PCE was not being readily used in dry cleaning until the 1930s.	101 Quebec Street	Offsite	NO	Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP, CDL
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	44	Historical Automotive Repair - a garage is identified at 169 Woolwich Street on the 1929 FIP, with an 'Auto Ignition and Battery Service' under construction on the 1946 FIP.	173 Woolwich Street	Offsite	NO	Hydraulically downgradient of the Phase One Property	FIP
	Gasoline and Associated Products Storage in Fixed Tanks	45	Historical Gasoline Service Station - a refueling and auto service station with 4 associated USTs is identified on the 1929 and 1946 FIPs at the southwest corner of Woolwich and Suffolk Streets. City directories indicate service stations (White Rose Service Station, Can Oil Co's Ltd. Service Station and Daley's Tire Shop Ltd & Service Station) present up to 1980.	192 Woolwich Street	Offsite	NO	Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP, CDL
37	Operation of Dry Cleaning Equipment (where chemicals are used)	46	Dry Cleaning Operations - Dry cleaning operation (4 Raza Inc, Parkers Cleaners, Daniel's Dry Cleaners Ltd.) have been located at 22 Suffolk Street East from 1986 to present based on city directories and MECP waste generator records.	22 Suffolk Street	Offsite	NO	Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	CDL, ELE
	Gasoline and Associated Products Storage in Fixed Tanks	47	Historical UST - the CFOT/FST database (ERIS) indicated that a 500 L fuel oil UST (single-wall steel) was installed at 21 Paisley Street in 2005 for Crewgall Properties. A furnace oil spill was reported in 2005 with soil contamination (amount not reported). The tank was delisted in 2013.	21 Paisley Street	Offsite	NO	Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	ELE
	Ink Manufacturing, Processing and Bulk Storage	48	Historical Printing Operation - Leaman Printing Co., a historical printing operation was listed in the city directories at 54 Cork Street East, from 1939 until 1944	50 Cork Street East	Offsite	NO	Hydraulically transgradient, and distance is greater than 50 m from the Phase One Property	CDL
28	Gasoline and Associated Products Storage in Fixed Tanks	49	Historical UST - the CFOT database indicated that a 5,072-L fibreglass reinforced plastic single-wall fuel oil UST was installed at 20 Cork Street East in 1986 for Bell Canada.	20 Cork Street East	Offsite	NO	Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
31	Ink Manufacturing, Processing and Bulk Storage	54	Historical Printing Operation - a historical printing operation was reported at 90 Woolwich Street in the Pinchin Phase One from the 1946 FIP; however Jacobs reviewed this FIP and did not see any noted operations at this address, and therefore this PCA is noted to be removed.	90 Woolwich Street	Offsite	NO	PCA removed, was not found on source material as reported.	

		PCA		Property					
Potentia	ally Contaminating Activity (PCA)	Unique	D ::: (DCA (1 Pl - 0 FCA C -)(2)	Address / Location of	Location of	PCA results in	_		Information
27	Causana and Maintenana and	ID (1	Descriptions of PCAs (in Phase One ESA Summary) (2) Historical I Automotive Repair - a building labeled "Garage" is present on the 1911 to 1946 FIPs at 88 Norfolk	PCA Onsite	PCA (3)	APEC	APEC	Rationale (4)	Source FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	61	Street.	Street (88 Norfolk Street)	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
34	Metal Fabrication	62	Historical Industrial Property Use - Various industrial companies occupied the southwest intersection of Paisley and Norfolk Streets. The 1878 FIP shows Wilkie & Osborne (Guelph Sewing Machine Co.); the 1892 FIP shows Guelph Enterprise Mfg. Co.; the 1911 FIP identifies Guelph Stove Co. (with associated moulding shop, tin shop, tinsmith, office/shipping, packing, mounting, nickel plating, milling, carpentry, sand shed); the 1916 FIP shows Royal City Stone Co.	Paisley and Norfolk Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
32	Iron and Steel Manufacturing and Processing	63	Historical Iron Foundry - J. Crowe Iron Works/Crowe's Iron Works identified on the 1878 and 1892 FIPs at the southwest corner of Cambridge (now Commercial) and Gordon (Norfolk)	Norfolk and Commercial Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	64	Historical Printing Operation - a printing company (Central Printing Services) was identified at 72 Norfolk Street based on ERIS Scott's Manufacturing records, indicating an established date of 1961.	72 Norfolk Street	Offsite	No		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	ELE
39	Paints Manufacturing, Processing and Bulk Storage	65	Former Paint Shop - a paint shop was identified on the 1916 FIP at 85 Norfolk Street	85 Norfolk Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
34	Metal Fabrication	66	Historical Tinsmith - Tinsmith operation indicated on the 1946 and 1960 FIP at 85 Norfolk Street	85 Norfolk Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	67	Historical Garage - an auto garage, and later auto trimming was identified on the 1911 and 1929 FIPs at 85 Norfolk Street	85 Norfolk Street	Offsite	NO		Hydraulically upgradient/ transgradient, but distance is greater than 100 m from the Phase One Property	FIP
55	Transformer Manufacturing, Processing and Use	68	Transformer - One pad-mounted transformer was identified during the Jacobs Site Visit (in 2020) on the west exterior portion of 45 Yarmouth Street North. No staining was observed on the concrete slab in the vicinity of the transformer and no evidence of leakage was observed during the Site reconnaissance.	45 Yarmouth Street	Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
55	Transformer Manufacturing, Processing and Use	69	Transformer - One pad-mounted transformer was identified during the Jacobs Site Visit (in 2020) on the south exterior portion of 40 Baker Street North. No staining was observed on the concrete slab in the vicinity of the transformer and no evidence of leakage was observed during the Site reconnaissance.	40 Baker Street	Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
57	Vehicles and Associated Parts Manufacturing	73	Historical Wagon Shop - Charles Thain Wagon Shop is shown on Wyndham Street on the 1878 FIP.	Wyndham Street	Offsite	NO		Hydraulically downgradient of the Phase One Property, and nature of PCA is shallow soil contamination	FIP
55	Transformer Manufacturing, Processing and Use	74	Transformer - One pad-mounted transformer was identified during the Jacobs Site Visit (in 2020) on the west exterior portion of 146 Wyndham Street North. No staining was observed on the concrete slab in the vicinity of the transformer and no evidence of leakage was observed during the Site reconnaissance.	146 Wyndham Street North	Offsite	NO		Hydraulically upgradient/ transgradient of the Phase One Property, but nature of PCA is shallow soil contamination	SR
28	Gasoline and Associated Products Storage in Fixed Tanks	75	Historical UST - a gasoline UST is identified at 156 Wyndham Street North on the 1929 FIP, on the east side of the building.	156 Wyndham Street North	Offsite	NO		Adjacent to the Phase One Property, however multiple lines of evidence indicate the PCA does not result in an APEC:	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	83	Historical Automotive Repair - an automotive servicing facility is identifies at 22 Suffolk Street East on the 1929 and 1946 FIPs.	22 Suffolk Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	84	Historical Paint Building - "Paint" is indicated on a building on the 1916 FIP at 12 Suffolk Street	12 Suffolk Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP

Potentia (1)	ally Contaminating Activity (PCA)	PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in	Resulting APEC	Rationale ⁽⁴⁾	Information Source
28	Gasoline and Associated Products Storage in Fixed Tanks	85	Historical Service Station - A service station with 5 associated gasoline USTs is identified at the southeast corner of Norfolk and Woolwich Streets (234 Woolwich) on the 1929 FIP. The 1946 FIP shows 4 gasoline USTs.	Norfolk and Woolwich	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	86	Historical Garage - a garage is identified at 228 Woolwich Street on the 1929 and 1946 FIP	228 Woolwich	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
54	Textile Manufacturing and Processing	87	Textile manufacturing - a former textile manufacturer (Buy the Yard) was identified for 214 Woolwich Street based on ERIS Scott's Manufacturing records in 1989.	214 Woolwich Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
54	Textile Manufacturing and Processing	88	Historical Textile Factory - Royal Knitting Co. is located at 37 - 41 Norwich Street East on the 1911, 1916 and 1929 FIPs, with buildings including factory, storage, stock, dye house.	37-47 Norwich Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
59	Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	89	Historical Varnishing Operations - a building labeled 'Varnishing' is identified at the corner of Norwich Street East and Cardigan Street on the 1911 FIP.	Norwich Street East and Cardigan Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	90	Historical Paint Shop - a paint shop is identified at the corner of Norwich Street East and Cardigan Street on the 1911 FIP.	Norwich Street East and Cardigan Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
57	Vehicles and Associated Parts Manufacturing	91	Vehicle parts manufacturer - a former motor vehicle brakes manufacturer (ABS Friction Corp.) was identified at 199 Woolwich Street based on an ERIS Scott's Manufacturing record for 1996.	199 Woolwich St.	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	ELE
46	Rail Yards, Tracks and Spurs	92	Railway Tracks - Canadian Pacific Railway lines are shown on the west/south side of Speed River. The lines have existed since at least 1908 and are present today.	West/South of Speed River	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	93	Historical Garage - Royal City Garage is identified on Eramosa Street on the 1916 FIP	Eramosa Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP
57	Vehicles and Associated Parts Manufacturing	94	Historical Industrial Operations - a blacksmith and carriage shop is indicated on the 1892, 1911 and 1916 FIPs at 135-143 Woolwich Street	135-143 Woolwich Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP
34	Metal Fabrication	95	Historical Wire Manufacturing - Wire Tape Manufacturers (National Standard Co. of Canada Limited) are identified on the 1929 to 1960 FIPs at 133 Woolwich Street, with buildings/operations extending behind and to the north of the neighbouring properties.	133 Woolwich Street	Offsite	NO		Hydraulically downgradient of the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	96	Historical Paint Shop - a paint shop is indicated on the 1916 FIP at 127 Woolwich Street; possibly associated with the carriage factory.	127 Woolwich Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
57	Vehicles and Associated Parts Manufacturing	97	Historical Carriage, Motorbody and Farm Equipment Manufacturing - Carriage Factory (C. Kloepfer) is indicated on the 1911/1916 FIPs, and Commercial Motor Bodies & Carriages on the 1929 FIP at 121-133 Woolwich. Buildings include woodworking, storage, trimming, shipping, coal shed, blacksmith. On the 1946 FIP W.G. Wood Co. Ltd is identified for manufacturing of farm equipment.	121-133 Woolwich Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	98	Historical Printing Operation - former book publishing operations (Ampersand Printing, ID Magazine, Ribbon Encore Inc.) were identified at 123 Woolwich Street from between 1986 through 2008 based on ERIS waste generator records.	123 Woolwich Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	ELE

		PCA		Property					
Potentia (1)	ally Contaminating Activity (PCA)	Unique	Descriptions of PCAs (in Phase One ESA Summary) (2)	Address / Location of PCA Onsite	PCA (3)	PCA results in APEC	Resulting APEC	Rationale ⁽⁴⁾	Information Source
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	99	Historical Garage - a building labeled 'Garage' was identified on the 1929 FIP at 98 Quebec Street.	98 Quebec Street	Offsite	NO	AFEC	Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	100	Historical UST - Two USTs were identified on the 1929 FIP at 98 Quebec Street in front of a building labeled garage.	98 Quebec Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	101	Historical Printing Operation - a newspaper publisher (Echo Weekly) was identified at 55 Wyndham Street North (Suite T 19B) based on ERIS Scott's Manufacturing records, indicating an established date of 1997.	55 Wyndham Street North	Offsite	No		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	ELE
57	Vehicles and Associated Parts Manufacturing	102	Historical Carriage Goods Manufacturing - Guelph Carriage Goods Co. (1892 FIP), Penfolds Carriage Factory (1892, 1897 and 1911 FIPs) and J. B. Armstrong Mfg. Co. Ltd, (1897 and 1911 FIPs) were located in what was referred to as the "Armstrong Block", between Quebec and Macdonell Streets. The operations included a spring shop, machine shop, woodworking, storage, blacksmith, warehouse.	between Quebec and Macdonell Streets	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	103	Historical Garage - a building labeled 'Garage' was identified on the 1929 FIP at 82-84 Macdonell Street.	82-84 Macdonell Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	104	Historical Printing Operation - a former printing operation (Kwik Kopy Printing) was identified at 27 Wyndham Street based on ERIS Scott's Manufacturing records (established 1984).	27 Wyndham St N	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	ELE
28	Gasoline and Associated Products Storage in Fixed Tanks	105	Historical UST - a UST was identified on the 1929 FIP at 84 Macdonell Street, in front of a building labeled garage.	84 Macdonell Street	Offsite	NO		Hydraulically transgradient/ downgradient, and distance is greater than 100 m from the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	106	Former Paint Shop - Paint shop located on 17 Quebec Street (1911 FIP).	17 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP
39	Paints Manufacturing, Processing and Bulk Storage	107	Historical Painting Storage - A building labeled "Paints" was identified on the 1911 and 1916 FIPs at 29 Quebec Street	29 Quebec Street	Offsite	NO		Based on site-specific groundwater flow, this location is hydraulically transgradient from the Phase One Property. Distance is greater than 50 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	108	Historical l Automotive Repair - a building labeled "Garage" and "National Automotive Implements" is present on the 1929 and 1946 FIPs, respectively, at 40 Cork Street East.	40 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	109	Historical Potential Dry Cleaning - 'Cleaning & Pressing' identified on the 1911 FIP at 44 Cork Street East	44 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	110	Historical Printing Operation- a former printing business (The Printery) was identified at 46 Cork Street East (Unit 1), established in1990 based on ERIS Scott's Manufacturing records.	46 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
31	Ink Manufacturing, Processing and Bulk Storage	111	Historical Printing Operation - a former printing operation (Justified Type) was identified at 19 Cork Street East in 1987 based on ERIS Scott's Manufacturing records and waste generator records for 2005 to 2012.	19 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
34	Metal Fabrication	112	Historical Blacksmith - Blacksmith identified at 39-41 Cork Street East on the 1911 and 1916 FIP	39-41 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP

Table 4-2. Potentially Contaminating Activities

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph Ontario

		PCA		Property					
Potentia	ally Contaminating Activity (PCA)	Unique		Address / Location of		PCA results in	_	(n)	Information
(1)		ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	PCA Onsite	PCA (3)	APEC	APEC	Rationale ⁽⁴⁾	Source
37	Operation of Dry Cleaning Equipment (where chemicals are used)	113	Historical Potential Dry Cleaning - 'Cleaning & Pressing' identified on the 1911 FIP at 45 Cork Street East	45 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	114	Historical Printing Operations - a building labeled printing is identified on the 1911 to 1946 FIPs at 47 Cork Street East	47 Cork Street East	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	115	Historical UST - a UST was identified at 34 Wyndham Street North based on ERIS spill report of a leak in 1991 due to corrosion where a reported 450 L of hydraulic oil was released to soil and groundwater.	34 Wyndham Street North	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	ELE
37	Operation of Dry Cleaning Equipment (where chemicals are used)	116	Historical Potential Dry Cleaning - 'Chinese Laundry' identified on the 1911 and 1916 FIPs at 36 Macdonell Street, and on the 1929 and 1946 FIPs at 30 1/2 Macdonell Street	36 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
28	Gasoline and Associated Products Storage in Fixed Tanks	117	Historical USTs - four USTs are identified in front of 20-26 Macdonell Street on the 1929 and the two west USTs remain on the 1946 FIP.	20-26 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
34	Metal Fabrication	118	Historical Blacksmith - Blacksmith identified at 131 Macdonell Street on the 1911 and 1916 FIP	131 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	119	Historical l Automotive Repair - a series of buildings labeled 'Garage/Repair Shop', 'AutoBody Repairs' are present on the 1929 FIPs at 6-16 Macdonell Street. The 1946 FIP shows the operations with a reduced footprint of just 6-10 Macdonell Street.	6-16 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
31	Ink Manufacturing, Processing and Bulk Storage	120	Historical Printers - The Thompson Co. Ltd. Guelph Daily Mercury was located at 8-14 Macdonell Street as identified on the 1960 FIP. The ERIS report identified Scott's Manufacturing and waste generator records from 1989 to 2014 for paint, pigments, coatings, aromatic solvents, waste oils, and photo processing wastes. In 2002, a spill of 100 Gallons of soy based ink related to a fire was identified based on ERIS spill records.	8-14 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP, ELE
28	Gasoline and Associated Products Storage in Fixed Tanks	121	Historical USTs - four USTs are identified in front of 6-10 Macdonell Street (Garage) on the 1929 and 1946 FIPs.	6-10 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	122	Historical Potential Dry Cleaning - 'Chinese Laundry' identified on the 1911 and 1916 FIPs at 8 Carden Street.	8 Carden Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	123	Potential Historical Dry Cleaning - 'Cleaner & Presser' identified on the 1946 FIP at 21 Macdonell Street	21 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	124	Historical Coal Shed - a coal shed is identified on the 1911, 1916 and 1929 FIPs at 18-20 Carden, extending to Macdonell Street.	18-20 Carden	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
37	Operation of Dry Cleaning Equipment (where chemicals are used)	125	Historical Potential Dry Cleaning - Master Cleaners is identified on the 1960 FIP at 18-22 Carden Street	18-22 Carden Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
34	Metal Fabrication	126	Historical Tinsmith - Tinsmith/Tin Shop indicated on the 1911 to 1946 FIP at 31 Macdonell Street	31 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP
10	Commercial Autobody Shops	127	Historical Autobody Shop - Pruss Bros. Body & Fender Works were identified at 37 Macdonell Street on the 1946 FIP	37 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 100 m from the Phase One Property	FIP

Table 4-2. Potentially Contaminating Activities

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph Ontario

Potenti	ially Contaminating Activity (PCA)	PCA Unique ID	Descriptions of PCAs (in Phase One ESA Summary) (2)	Property Address / Location of PCA Onsite	Location of PCA (3)	PCA results in APEC	Resulting APEC	Rationale ⁽⁴⁾	Information Source
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D		Spill - A spill of 200-300 L of anti-freeze to the road an catch basin at 55 Macdonell Street in 2015 was identified based on ERIS spill records.	55 Macdonell Street	Offsite	NO		Hydraulically transgradient, and distance is greater than 200 m from the Phase One Property	ELE
Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	129	Historical Coal Shed - A coal shed is shown beside the Canadian Pacific Railway lines on the 1911 to 1946 FIPs	Between Cardigan Street and the Rail Lines	Offsite	NO		Hydraulically transgradient/ downgradient to the Phase One Property	FIP

Notes

APEC = Area of Potential Environmental Concern

AST = Aboveground storage tank

CDL = City Directory Listings

ELE = EcoLog ERIS Database Search

FIP = Fire insurance plan

HER = Historical Environmental Reports

ID = Identification

mbgs = metres below ground surface

MECP = Ontario Ministry of the Environment, Conservation and Parks

offsite = Within Phase One Study area, outside the Phase One Property

onsite = Phase One Property

PCA = Potentially contaminating activity

PCE = tetrachloroethylene

SR = site reconnaissance

UST = Underground storage tank

¹PCA – potentially contaminating activity (as defined by O.Reg. 153/04)

² PCAs 1 to 56 were identified in the Pinchin Phase One ESA (2018), and descriptions have been updated where applicable for clarity. Additional PCAs (57 and above) were identified by Jacobs.

³ Refer to Figure 8 and 9 for PCA locations.

⁴ Regional groundwater flow was inferred to be towards Speed River (north to north-east); site-specific groundwater flow was shown to be towards the north on the north portion of the Site, and to the east on the southern portion of the Site (based on the Phase Two ESA [Jacobs, 2020]). Some of the updgradient/downgradient terminology may have changed from the Pinchin (2018) report based on this updated interpretation.

Table 4-3. Areas of Potential Environmental Concern

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Area	s of Potential Environmental Concern ^a	Location of Area of Potential Environmental Concern on Phase One Property		Potentially Contaminating Activity ^b	Location of PCA (on-site or off-site) ^c	Contaminants of Potential Concern ^d	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC-1	Historical Industrial Property Use	55 Baker Street Park Lane	34	Metal Fabrication	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B- HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Soil and Groundwate
APEC-2	Unknown/Poor Quality Fill Material	Entire Site	30	Importation of Fill Material of Unknown Quality	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B- HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Soil and Groundwate
APEC-3	Historical Transformers	East-central portion of 55 Baker Street	55	Transformer Manufacturing, Processing and Use	Onsite	PHCs, BTEX, PCBs, PAHs	Soil
APEC-4	Use of Road Salts	Entire Site	48	Salt Manufacturing, Processing and Bulk Storage	Onsite	EC, SAR, sodium, chloride	Soil and Groundwate
APEC-5	Historical Dry Cleaning	North portion of 55 Baker Street	37	Operation of Dry Cleaning Equipment (where chemicals are used)	Offsite - North	VOCs	Groundwater
APEC-6	Historical Retail Fuel Outlet, Historical UST, Historical Automotive repair/servicing and Historical Iron Foundry	North portion of 55 Baker Street	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - North	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
			28	Gasoline and Associated Products Storage in Fixed Tanks			
			32	Iron and Steel Manufacturing and Processing			
APEC-7	Potential Historical Dry Cleaning	North portion of 55 Baker Street	37	Operation of Dry Cleaning Equipment (where chemicals are used)	Offsite - North	VOCs	Groundwater
APEC-8	Potential Historical Dry Cleaning, Historical Garage and Historical UST	Wyndham Street North and	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - Northeast	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
		northeast portion of 55 Baker Street	28	Gasoline and Associated Products Storage in Fixed Tanks			
			37	Operation of Dry Cleaning Equipment (where chemicals are used)			
APEC-9	Historical Fuel Oil UST	North portion of 55 Baker Street	28	Gasoline and Associated Products Storage in Fixed Tanks	Offsite - Northeast	PHCs, VOCs, BTEX, PAHs, Metals (Lead)	Groundwater
APEC-10	Historical Automotive Repair	Northeast portion of 55 Baker Street	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - Northeast	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
APEC-11	Historical Off-Site Industrial Operations, Historical UST and Historical Fuel Oil Tank	West-central portion of 55 Baker Street	34	Metal Fabrication	Offsite - West	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B- HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Groundwater
			28	Gasoline and Associated Products Storage in Fixed Tanks			
APEC-12	Historical Automotive Garage, Historical USTs and Historical Industrial Operations	West-central portion of 55 Baker Street	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - West	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B- HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Groundwater
			28	Gasoline and Associated Products Storage in Fixed Tanks	•		
			34	Metal Fabrication			
APEC-13	Historical Automotive Garage	South portion of 152 Wyndham Street North	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Offsite - East	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
APEC-14	Historical Gasoline Spill	Southwest corner of 55 Baker Street	Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	Offsite - South	PHCs, PAHs, VOCs (MTBE), BTEX	Groundwater
APEC-15	Historical Dry Cleaning	Southeast portion of Park Lane	37	Operation of Dry Cleaning Equipment (where chemicals are used)	Offsite - East	VOCs	Groundwater

Table 4-3. Areas of Potential Environmental Concern

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Area	is of Potential Environmental Concern ^a	Location of Area of Potential Environmental Concern on Phase One Property		Potentially Contaminating Activity ^b	Location of PCA (on-site or off-site) ^c	Contaminants of Potential Concern ^d	Media Potentially Impacted (Groundwater, soil and/or sediment)
APEC-16	Historical AST and UST	Southwest corner of 55 Baker Street	28	Gasoline and Associated Products Storage in Fixed Tanks	Offsite - South	PHCs, VOCs, BTEX, PAHs, Metals (Lead)	Groundwater
APEC-17	Historical Service Station, Historical Dry Cleaning Operation, Historical Automotive Repair, Historical Coah and Body Manufacturing, Historical Industrial Property Use	Baker Street	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles Gasoline and Associated Products Storage in Fixed Tanks	Offsite - Northwest	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B- HWS, CN-, EC, SAR), PHCs, PAHs, VOCs, BTEX	Groundwater
			37 34 57	Operation of Dry Cleaning Equipment (where chemicals are used) Metal Fabrication Vehicles and Associated Parts Manufacturing			
APEC-18	Former Oil Shed	Southwest portion of 55 Baker Street	28	Gasoline and Associated Products Storage in Fixed Tanks	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Soil and Groundwater
APEC-19	Former Oil House	Western portion of 152 Wyndham Street North	28	Gasoline and Associated Products Storage in Fixed Tanks	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Soil and Groundwater
APEC-20	Former Coke Storage	Northeast portion of 55 Baker Street	Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX, ABNs	Soil and Groundwater
APEC-21	Former Garage	Northeast portion of 55 Baker Street	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Onsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Soil and Groundwater
APEC-22	Historical Dry Cleaning Operations, Historical UST and Former Coal Yard	Southwest portion of 55 Baker Street	28	Gasoline and Associated Products Storage in Fixed Tanks	Offsite	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	Groundwater
			37	Operation of Dry Cleaning Equipment (where chemicals are used)			
			Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D			

Notes:

APECs 1 to 16 were identified in the Pinchin (2018) Phase One ESA. Additional PCAs were added to offsite APECs 6, 11 and 12 as part of the Phase One ESA Update (Jacobs 2021). APECs 17 to 22 were identified by Jacobs (2021).

ABN = Acid Base Neutrals

APEC = Area of Potential Environmental Concern

B-HWS = hot water soluble boron

BTEX = benzene, toluene, ethylbenzene and xylenes

CN- = cyanide

COPC = contaminant of potential concern

CrVI = hexavalent chromium
EC = electrical conductivity
Hg = mercury
MTBE = methyl tert-butyl ether
O. Reg. = Ontario Regulation
ORP = other regulated parameter

PAH = Polyaromatic Hydrocarbons
PCB = Polychlorinated biphenyl
PHC = Petroleum Hydrocarbons
SAR = sodium adsorption ratio
UST = underground storage tank
VOC = Volatile Organic Compounds

a- APEC means the area on, in, or under a Phase One Property where one or more contaminants are potentially present, as determined through the Phase One ESA, including through (a) identification of past or present uses on, in, or under the Phase One Property; and (b) identification of PCAs.

b PCA – potentially contaminating activity means a use or activity as set out in Column A of Table 2 of Schedule D of O. Reg. 153/04 that is occurring or has occurred in a Phase One study area.

^c "Onsite" refers to within the Phase One/Two Property; "Offsite" refers to the Phase One Study Area.

d. Contaminants of potential concern were identified using the Method Groups as identified in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 9, 2004, amended as of July 1, 2011.

Table 6-1. Monitoring Well Construction Details

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane and Park Lane, Guelph, Ontario

			T . (D)	6. 46.6.				Screene	d Interval		
Well	Northing	Easting	Top of Pipe Elevation (masl)	Ground Surface Elevation (masl)	Installation Date	Well Inner Diameter	Start (mbgs)	End (mbgs)	Start (masl)	End (masl)	Screened Material
BH16-MW2	4821788.6	560489.9	329.43	329.52	November 26, 2008	50 mm	6.00	8.70	323.52	320.82	Bedrock
BH17-MW5D	4821889.2	560432.9	329.65	329.70	November 27, 2008	50 mm	8.50	10.60	321.20	319.10	Bedrock
BH17-MW5S	4821890.0	560433.1	329.65	329.70	November 27, 2008	50 mm	2.50	5.10	327.20	324.60	Silty Sand
MW100	4821807.2	560474.8	329.84	329.93	August 22, 2019	50 mm	5.49	8.53	324.44	321.40	Bedrock
MW101	4821749.6	560553.9	328.52	328.68	August 21, 2019	50 mm	5.72	8.76	322.97	319.92	Silty Sand / Bedrock
MW102A	4821899.0	560437.7	329.35	329.49	August 27, 2019	50 mm	2.13	5.18	327.36	324.31	Sand / Sandy Clayey Silt Till
MW102B	4821899.7	560436.3	329.42	329.52	August 26, 2019	50 mm	8.84	10.36	320.68	319.16	Bedrock
MW103	4821888.4	560449.6	329.34	329.52	August 14, 2019	50 mm	2.13	5.18	327.39	324.34	Silty Sand / Clayey Silt / Sandy Silt / Silt
MW104	4821866.9	560460.4	329.64	329.79	August 13, 2019	50 mm	5.94	8.99	323.85	320.80	Sand / Sandy Clayey Silt Till / Bedrock
MW105	4821820.9	560450.9	329.99	330.10	August 13, 2019	50 mm	5.64	8.69	324.46	321.41	Clayey Silt Till / Silty Sand / Bedrock
MW107	4821768.8	560464.0	329.03	329.17	August 19, 2019	50 mm	5.33	8.38	323.84	320.79	Bedrock
MW107B	4821768.7	560464.8	329.00	329.17	November 20, 2019	50 mm	13.87	15.39	315.30	313.78	Bedrock
MW108	4821875.5	560485.9	329.28	329.38	August 16, 2019	50 mm	6.71	9.75	322.67	319.63	Bedrock
MW109	4821849.8	560485.3	329.91	329.99	August 15, 2019	50 mm	7.32	10.36	322.67	319.63	Bedrock
MW110A	4821775.42	560498.06	329.13	329.05	Nov. 19, 2019	50 mm	5.33	8.38	323.72	320.67	Bedrock
MW110B	4821775.23	560497.92	329.13	328.65	Nov. 19, 2019	50 mm	13.87	15.39	314.78	313.26	Bedrock
MW111	4821830.19	560456.5	330.2	330.06	Nov. 18, 2019	50 mm	13.87	15.39	316.19	314.67	Bedrock
MW113	4821735.43	560472.83	328.25	328.34	April 9, 2020	50 mm	5.18	8.23	323.16	320.11	Bedrock

Notes:

masl = metre(s) above sea level mbgs = metre(s) below ground surface

mm = millimetre(s)

MW = monitoring well

Table 6-2. Groundwater Measurements

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

								Septen	nber 11, 2019			Sept	ember 18, 2019			Dec	ember 18, 2019			Α	pril 15, 2020	
Well IDs	Screened Material	Hydrogeolgic Unit	Top of Screen (mbgs)	Bottom of Screen (mbgs)	Top pf Pipe (masl)	Ground Elevation (masl)	Water Level (mbtoc)	NAPL (mbtoc)	Groundwater Elevation (masl)	Depth to Groundwater (mbgs)	Water Level (mbtoc)	NAPL (mbtoc)	Groundwater Elevation (masl)	Depth to Groundwater (mbgs)	Water Level (mbtoc)	NAPL (mbtoc)	Groundwater Elevation (masl)	Depth to Groundwater (mbgs)	Water Level (mbtoc)	NAPL (mbtoc)	Groundwater Elevation (masl)	Depth to Groundwater (mbgs)
Silt		, , , ,		, , ,		, ,												_			ı	
BH-17-MW5S	Silty Sand	Perched Groundwater	2.50	5.10	329.65	329.70					4.48		325.17	4.53								
MW102A	Sand / Sandy Clayey Silt Till	Perched Groundwater	2.13	5.18	329.35	329.49	4.17		325.19	4.31	4.23		325.12	4.37	4.32		325.04	4.45	3.78		325.57	3.92
MW103	Silty Sand / Clayey Silt / Sandy Silt / Silt	Perched Groundwater	2.13	5.18	329.34	329.52	3.93		325.41	4.11	3.97		325.38	4.14	3.82		325.52	4.00	3.60		325.74	3.78
Bedrock																						
BH16-MW2	Bedrock	Bedrock Aquifer	6.00	8.70	329.43	329.52					7.29		322.14	7.38	7.35		322.08	7.44	6.71		322.72	6.80
BH17-MW5D	Bedrock	Bedrock Aquifer	8.50	10.60	329.65	329.70					8.26		321.40	8.31								
MW100	Bedrock	Bedrock Aquifer	5.49	8.53	329.84	329.93	7.27		322.57	7.36	7.39		322.46	7.48	7.61		322.24	7.70	7.03		322.81	7.12
MW101	Silty Sand / Bedrock	Bedrock Aquifer	5.72	8.76	328.52	328.68	7.33		321.19	7.49	7.38		321.14	7.54	7.34		321.19	7.50	6.69		321.83	6.85
MW102B	Bedrock	Bedrock Aquifer	8.84	10.36	329.42	329.52	7.87		321.55	7.97	7.99		321.43	8.09	8.12		321.30	8.22	7.62		321.80	7.72
MW104	Sand / Sandy Clayey Silt Till / Bedrock	Bedrock Aquifer	5.94	8.99	329.64	329.79	8.33		321.32	8.48	8.41		321.24	8.56	8.51		321.13	8.66	8.18		321.46	8.33
MW105	Clayey Silt Till / Silty Sand / Bedrock	k Bedrock Aquifer	5.64	8.69	329.99	330.10	8.14		321.85	8.25	8.27		321.72	8.38	8.32		321.67	8.43	7.83		322.16	7.94
MW107	Sandy Gravel / Bedrock	Bedrock Aquifer	5.33	8.38	329.03	329.17	6.31		322.72	6.45	6.34		322.69	6.48	6.32		322.72	6.46	6.13		322.90	6.27
MW108	Bedrock	Bedrock Aquifer	6.71	9.75	329.28	329.38	7.95		321.33	8.05	8.04		321.25	8.14	7.99		321.30	8.09	7.80		321.48	7.90
MW109	Bedrock	Bedrock Aquifer	7.32	10.36	329.91	329.99	8.18		321.73	8.26	8.21		321.70	8.29	8.21		321.70	8.29	7.80		322.11	7.88
MW110A	Bedrock	Bedrock Aquifer	5.33	8.38	328.96	329.13									7.2		321.76	7.37	6.62		322.34	6.79
MW113	Bedrock	Bedrock Aquifer	5.18	8.23	328.25	328.34													5.74		322.51	5.83
MW107B	Bedrock	Deep Bedrock Aquifer	13.87	15.39	329.00	329.17									6.81		322.19	6.98	6.64		322.36	6.81
MW110B	Bedrock	Deep Bedrock Aquifer	13.87	15.39	329.05	329.13									7.61		321.44	7.69	7.03		322.02	7.11
MW111	Bedrock	Deep Bedrock Aquifer	13.87	15.39	330.01	330.20									8.92		321.09	9.11	8.62		321.39	8.81

Notes:

-- = not measured

ID = identification

m = metre(s)

masl = metre(s) above sea level

mbgs = metre(s) below ground surface mbtoc = metre(s) below top of casing

NAPL = nonaqueous phase liquid

Table 6-3. Summary of Hydraulic Conductivity Values

55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario

Well IDs	Date of Test	Screen Top (mbgs)	Screen Bottom (mbgs)	Type of Test	Perched, Confined, Unconfined	Lithology	Analytical Test	Hydraulic Conductivity (m/s)	Location Average Hydraulic Conductivity (m/s)	Hydraulic	Geometric Average Hydraulic Conductivity (m/d)
MW102A	September 11, 2019	2.13	5.18	Rising	Perched	Silt	Bouwer & Rice, 1976	7.4E-07	7.1E-07	1.6E-07	1.4E-02
MW102A	September 11, 2019	2.13	5.18	Rising	Perched	Silt	Bouwer & Rice, 1976	6.8E-07			
MW103	September 11, 2019	2.13	5.18	Rising	Perched	Silt	Bouwer & Rice, 1976	3.6E-08	3.6E-08		
MW101	September 11, 2019	5.72	8.76	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.5E-06	2.4E-06	6.0E-06	5.2E-01
MW101	September 11, 2019	5.72	8.76	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.3E-06			
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	1.9E-04	2.0E-04		
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.0E-04			
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.0E-04			
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.0E-04			
MW107	September 11, 2019	5.33	8.38	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	2.0E-04			
MW109	September 11, 2019	7.32	10.36	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	5.3E-07	4.9E-07	1	
MW109	September 11, 2019	7.32	10.36	Rising	Unconfined	Bedrock	Bouwer & Rice, 1976	4.6E-07			

Notes:

ID = identification
m/s = metre(s) per second

m/d = metre(s) per day

mbgs = metre(s) below ground surface

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

	Areas of Potential Environmental Concern (APEC)		PCA ^{a.}	Contaminants of Potential Concern ^b	Location Associated with APEC Area	Location Type	List of Parameter Groups Tested (Soil) ^{b.}	List of Parameter Groups Tested (GW) b.
APEC-1	Historical Industrial Property Use	34	Metal Fabrication	Metals, hydride-forming Metals,	BH-03	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	
				ORPs (Hg, CrVI, B-HWS, CN-, EC,	BH-04	BH	Metals (missing Uranium)*, PCBs, PHCs	
				SAR), PHCs, PAHs, VOCs, BTEX	BH-10	BH	Metals (missing Uranium)*, PAHs	
					BH-11	BH	Metals (missing Uranium)*, PAHs, PHCs	
					BH-14	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	
					BH-16-MW2	ВН	Metals (missing Uranium)*, PCBs, PHCs	
					BH-17-MW5S	BH	Metals (missing Uranium)*, PHCs	
					BH200	ВН	BTEX, ORPs, Metals, PAHs, PCBs, PHCs, VOCs	
					BH201	ВН	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH202	ВН	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH207	ВН	PHCs	
					BH208	BH	PAHs	
					BH209	BH	Metals, PCBs	
					MW100	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102A	MW		BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102A MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VC
					MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
DEC 0	(2) (3) (4) (5) (4)		5 11 5 11 5 11 5 11		MW111	MW		ORPs, Metals
APEC-2	Unknown/Poor Quality Fill Material	30	Importation of Fill Material of Unknown Quality	Metals, hydride-forming Metals,	BH-03	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	
				ORPs (Hg, CrVI, B-HWS, CN-, EC,	BH-04	BH	Metals (missing Uranium)*, PCBs, PHCs	
				SAR), PHCs, PAHs, VOCs, BTEX	BH-05	BH	Metals (missing Uranium)*	
					BH-06	BH	Metals (missing Uranium)*	
					BH-07	BH	Metals (missing Uranium)*	
					BH-08-MW4	BH	BTEX, Metals (missing Uranium)*, PCBs, PHCs, VOCs	
					BH-09	BH	Metals (missing Uranium)*	
					BH-10	BH	Metals (missing Uranium)*, PAHs	
					BH-11	BH	Metals (missing Uranium)*, PAHs, PHCs	
					BH-13	BH	Metals (missing Uranium)*, PHCs	
					BH-14	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	
					BH-15-MW3	BH	Metals (missing Uranium)*, PHCs	
					BH-16-MW2	ВН	Metals (missing Uranium)*, PCBs, PHCs	
					BH-17-MW5S	ВН	Metals (missing Uranium)*, PHCs	
					BH200	BH	BTEX, ORPs, Metals, PAHs, PCBs, PHCs, VOCs	
					BH201	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH202	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH203	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH204	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH205	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH206	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH207	BH	PHCs	
							PAHs	
					BH208	BH		
					BH209	BH	Metals, PCBs	
					BH210	BH	Metals	
					BH211	BH	Metals	
					MW100	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW101	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102A	MW		BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VC
					MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW107	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

	Areas of Potential Environmental Concern (APEC)		PCA ^{a.}	Contaminants of Potential Concern ^b	Location Associated with APEC Area	Location Type	List of Parameter Groups Tested (Soil) b.	List of Parameter Groups Tested (GW) b.
					MW108	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW109	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW110A	MW		ORPs, Metals
					MW110B	MW		ORPs, Metals
					MW111	MW		ORPs, Metals
					MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					BH200	BH	BTEX, ORPs, Metals, PAHs, PCBs, PHCs, VOCs	
APEC-3	Historical Transformers	55	Transformer Manufacturing, Processing and Use	PHCs, BTEX, PCBs, PAHs	BH209	BH	Metals, PCBs	
۸DEC-/	Use of Road Salts	48	Salt Manufacturing, Processing and Bulk Storage	EC, SAR, sodium, chloride		BH	· ·	
AFEC-4	Ose of Road Salts	40	Satt Manufacturing, Processing and Butk Storage	EC, SAR, Souldill, Ciliolide	BH-03		BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	
					BH-04	BH	Metals (missing Uranium)*, PCBs, PHCs	
					BH-05	BH	Metals (missing Uranium)*	
					BH-06	BH	Metals (missing Uranium)*	
					BH-07	BH	Metals (missing Uranium)*	
					BH-08-MW4	BH	BTEX, Metals (missing Uranium)*, PCBs, PHCs, VOCs	
					BH-09	BH	Metals (missing Uranium)*	
					BH-10	BH	Metals (missing Uranium)*, PAHs	
					BH-11	BH	Metals (missing Uranium)*, PAHs, PHCs	
					BH-13	BH	Metals (missing Uranium)*, PHCs	
					BH-14	BH	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	
					BH-15-MW3	BH	Metals (missing Uranium)*, PHCs	
					BH-16-MW2	BH	Metals (missing Uranium)*, PCBs, PHCs	
					BH-17-MW5S	BH	Metals (missing Uranium)*, PHCs	
					BH200	BH	BTEX, ORPs, Metals, PAHs, PCBs, PHCs, VOCs	
					BH201	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH202	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH203	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH204	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH205	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH206	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
					BH207	BH	PHCs	
					BH208	BH	PAHs	
					BH209	BH	Metals, PCBs	
					BH210	BH	Metals	
					BH211	BH	Metals	
					MW100	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW101	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102A	MW		BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOC
					MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW107	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW107B	MW		ORPs, Metals
					MW108	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW109	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
					MW110A	MW		ORPs, Metals
					MW110B	MW		ORPs, Metals
					MW111	MW		ORPs, Metals
					MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
			Operation of Dry Cleaning Equipment (where chemicals		MW102A	MW		BTEX, ORPs, Metals, PAHs, PHCs, VOCs
VDEC-E	Historical Dry Cleaning	37	are used)	VOCs				,,,,,

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

	Areas of Potential Environmental Concern (APEC)		PCA ^{a.}	Contaminants of Potential Concern b	Location Associated with APEC Area	Location Type	List of Parameter Groups Tested (Soil) b.	List of Parameter Groups Tested (GW) ^{b.}
	Historical Retail Fuel Outlet, Historical	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	ORPs (Hg, CrVI), PHCs, PAHs, VOCs,	MW102A	MW		BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-6	UST, Historical Automotive repair/servicing and Historical Iron Foundry	28 32	Gasoline and Associated Products Storage in Fixed Tanks Iron and Steel Manufacturing and Processing	BTEX	MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-7	Potential Historical Dry Cleaning	37	Operation of Dry Cleaning Equipment (where chemicals	VOCs	MW102A	MW		BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		27	Garages and Maintenance and Repair of Railcars, Marine		MW102B BH-03	BH	BTEX, ORPs, Metals, PAHs, PHCs, VOCs BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-8	Potential Historical Dry Cleaning,	28	Vehicles and Aviation Vehicles Gasoline and Associated Products Storage in Fixed Tanks	VOCs	MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
	Historical Garage and Historical UST	_	Operation of Dry Cleaning Equipment (where chemicals		MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		37	are used)		MW108	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
ADEC O	Historiaal Frank Oil HCT	20	Gasoline and Associated Products Storage in Fixed	PHCs, VOCs, BTEX, PAHs, Metals	MW102A	MW		BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-9	Historical Fuel Oil UST	28	Tanks	(Lead)	MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-10	Historical Automotive Repair	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	MW103	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
	Historical Off Cita Industrial Operations	28	Gasoline and Associated Products Storage in Fixed	Metals, hydride-forming Metals,	BH-14	ВН	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	
APEC-11	Historical Off-Site Industrial Operations and Historical UST	34	Tanks	ORPs (Hg, CrVI, B-HWS, CN-, EC,	BH208	BH	PAHs	
	and Historical UST			SAR), PHCs, PAHs, VOCs, BTEX	MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
	Historical Automotive Garage and	27	Vehicles and Aviation Vehicles	Metals, hydride-forming Metals,	BH-11	ВН	Metals (missing Uranium)*, PAHs, PHCs	
APEC-12	Historical USTs	28		ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	BH201	ВН	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
		34	Metal Fabrication		MW105	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-13	Historical Automotive Garage	27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs,	BH206	ВН	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	
			venicles and Aviation Venicles	BTEX	MW109	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-14	Historical Gasoline Spill	Other	Activity not defined in O. Reg. 153/04 Table 2 of	PHCs, PAHs, VOCs (MTBE), BTEX	BH-07	ВН	Metals (missing Uranium)*	
	эр.		Schedule D	,	MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-15	Historical Dry Cleaning	37	Operation of Dry Cleaning Equipment (where chemicals are used)	VOCs	MW101	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-16	Historical Above Ground Storage Tank	28	Gasoline and Associated Products Storage in Fixed	PHCs, VOCs, BTEX, PAHs, Metals	BH-07	BH	Metals (missing Uranium)*	
	and UST	_	Tanks	(Lead)	MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	Metals, hydride-forming Metals, ORPs (Hg, CrVI, B-HWS, CN-, EC,	BH-17-MW5S	ВН	Metals (missing Uranium)*, PHCs	
	Historical Service Station, Historical Dry Cleaning Operation, Historical Automotive Popule Historical Coah and	28	Gasoline and Associated Products Storage in Fixed Tanks	SAR), PHCs, PAHs, VOCs, BTEX	MW102A	MW		BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-17	Automotive Repair, Historical Coah and	34	Metal Fabrication					
	Body Manufacturing, Historical Industrial Property Use		Operation of Dry Cleaning Equipment (where chemicals are used)		MW102B	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		57	Vehicles and Associated Parts Manufacturing				5.2.9, 5 5,	
			Gasoline and Associated Products Storage in Fixed	Metals, hydride-forming Metals,	BH-08-MW4	ВН	BTEX, Metals (missing Uranium)*, PCBs, PHCs, VOCs	
APEC-18	Former Oil Shed	28	Tanks	ORPs (Hg, CrVI), PHCs, PAHs, VOCs,	MW107	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
				BTEX	MW107B	MW		ORPs, Metals

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

	Areas of Potential			Contaminants of	Location Associated with	Location		
I	Environmental Concern (APEC)		PCA ^{a.}	Potential Concern D	APEC Area	Type	List of Parameter Groups Tested (Soil) b.	List of Parameter Groups Tested (GW) b.
APEC-19	Former Oil House	28	Gasoline and Associated Products Storage in Fixed Tanks	Metals, hydride-forming Metals, ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	MW109	MW	BTEX, Dioxins/Furans, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
ADEC 20	Former Coke Storage	Othor	Activity not defined in O. Reg. 153/04 Table 2 of	Metals, hydride-forming Metals,	BH-03	ВН	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	
APEC-20	Former Coke Storage	Other	Schedule D	ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX, ABNs	MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs
ADEC 24	Farmar Caraca	27	Garages and Maintenance and Repair of Railcars, Marine	Metals, hydride-forming Metals,	BH-03	ВН	BTEX, Metals (missing Uranium)*, PAHs, PHCs, VOCs	
APEC-21	Former Garage	21	Vehicles and Aviation Vehicles	ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	MW104	MW	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs	ABNs, BTEX, ORPs, Metals, PAHs, PHCs, VOCs
		28	Gasoline and Associated Products Storage in Fixed Tanks	Metals, hydride-forming Metals,	MW107	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs
APEC-22	Historical Dry Cleaning Operations, Historical UST and Former Coal Yard	37	Operation of Dry Cleaning Equipment (where chemicals are used)	ORPs (Hg, CrVI), PHCs, PAHs, VOCs, BTEX	MW107B	MW		ORPs, Metals
		Other	Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	DIEX	MW113	MW	BTEX, ORPs, Metals, PAHs, PHCs, VOCs	BTEX, ORPs, Metals, PAHs, PHCs, VOCs

Notes:

As = arsenic EC = electrical conductivity

ABNs = acid base neutral compounds ERIS = environmental risk information services

APEC = area of potential environmental concern FIP = fire insurance plan GW = groundwater BH = borehole B-HWS = boron - hot water soluble Hg = mercury

BTEX = benzene, toluene, ethylbenzene, xylene

MECP = Ontario Ministry of Environment, Conservation and Parks CN- = cyanide Metals = Metals, hydride-forming metals

COC = contaminant of concern MW = monitoring well

CrVI = hexavalent chromium ORPs = Other Regulated Parameters PAHs = polyaromatic hydrocarbons

PCA = potentially contaminating activity

PCBs = polychlorinated biphenyls PHCs = petroleum hydrocarbons

SAR = sodium adsorption ratio

Sb = antimony

Se = selenium

UST = underground storage tank VOCs = volatile organic compounds

^a PCA – potentially contaminating activity means a use or activity as set out in Column A of Table 2 of Schedule D of O. Reg. 153/04 that is occurring or has occurred in a Phase One study area.

^b AP Method groups as defined in the "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" dated July 1, 2011.

^{*}Samples from 2008 were collected in accordance with O. Reg. 153/04, but are missing analysis of uranium, which was not regulated under the Regulation at the time of investigation. This data is considered valid for RSC purposes.

[&]quot;--" = no data for the specified media

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		Location		BH-04	BH-05	BH-06	BH-07		B-MW4	BH-09	BH-10	BH-11	BH-13	BH-14		BH-16-MW2				H200	
		Sample ID	BH-3 (SS2)	BH-4 (SS2)	BH-5 (SS2)	BH-6 (SS5)	BH-7 (SS2)	BH-8 (SS4)	BH-X-NOV25	BH-9 (SS3)	BH-10 (SS1)	BH-11 (SS2)	BH-13 (SS3)	BH-14 (SS2)	BH-15 (SS1)	BH-16 (SS2)	BH-17 (SS3)	DUP1	BH200-35-40	BH200-7.5-9.5	BH200-15-1
			11/27/2008	11/26/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/26/2008	11/27/2008	11/27/2008	11/25/2008	11/25/2008	11/26/2008	11/26/2008	11/27/2008	7/23/2019	7/23/2019	8/12/2019	8/12/201
		Sample Type		N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N
		Start Depth	0.8	0.8	0.8	3.1	0.8	2.3	2.3	1.5	0	0.8	1.5	0.8	0	0.8	1.5	0.89	0.89	2.29	4.57
		End Depth	1.4	1.4	1.4	3.7	1.2	2.9	2.9	2.2	0.6	1.4	2	1.4	0.6	1.4	2.1	1.01	1.01	2.9	5.18
Analyte	Units	Table 2 SCS ^a																			
Acids, Bases, Neutrals (ABNs)																					
1,1'-Biphenyl	ug/g	0.31																			
1,2,4-Trichlorobenzene	ug/g	0.36																			
2,4 & 2,6-Dinitrotoluene	ug/g	0.5																			
2,4-Dimethylphenol	ug/g	38																			
2,4-Dinitrophenol	ug/g	2																			
2,4-Dinitrotoluene	ug/g	0.5																			
2,6-Dinitrotoluene	ug/g	0.5																			
3,3'-Dichlorobenzidine	ug/g	1																			
4-Chloroaniline	ug/g	0.5																			
Bis (2-chloroethyl) ether	ug/g	0.5																			
bis (2-Chloroisopropyl) ether	ug/g	0.67																			
Bis (2-ethylhexyl) phthalate	ug/g	5																			
Diethylphthalate	ug/g	0.5																			
Dimethylphthalate	ug/g	0.5																			
Phenol	ug/g	9.4																			
Dioxins/Furans																					
1,2,3,4,6,7,8-HpCDD	pg/g	NV																			
1,2,3,4,6,7,8-HpCDF	pg/g	NV																			
1,2,3,4,7,8,9-HpCDF	pg/g	NV																			
1,2,3,4,7,8-HxCDD	pg/g	NV																			
1,2,3,4,7,8-HxCDF	pg/g	NV																			
1,2,3,6,7,8-HxCDD	pg/g	NV																			
1,2,3,6,7,8-HxCDF	pg/g	NV																			
1,2,3,7,8,9-HxCDD	pg/g	NV																			
1,2,3,7,8,9-HxCDF	pg/g	NV																			
1,2,3,7,8-PeCDD	pg/g	NV																			
1,2,3,7,8-PeCDF	pg/g	NV																			
2,3,4,6,7,8-HxCDF	pg/g	NV																			
2,3,4,7,8-PeCDF	pg/g	NV																			
2,3,7,8-TCDD	pg/g	NV																			
2,3,7,8-TCDF	pg/g	NV																			
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13																			
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13																			
OCDD	pg/g	NV																			
OCDF	pg/g	NV																			
Total HpCDD	pg/g	NV																			
Total HpCDD # Homologues	None	NV																			
Total HpCDF	pg/g	NV																			
Total HpCDF # Homologues	None	NV																			
Total HxCDD	pg/g	NV																			
Total HxCDD # Homologues	None	NV																			
Total HxCDF	pg/g	NV																			
Total HxCDF # Homologues	None	NV																			
Total PeCDD	pg/g	NV																			
Total PeCDD # Homologues	None	NV																			
Total PeCDF	pg/g	NV																			
Total PeCDF # Homologues	None	NV																			
Total TCDD	pg/g	NV																			
Total TCDD # Homologues	None	NV																			
Total TCDF	pg/g	NV																			
Total TCDF # Homologues	None	NV																			
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13																			
Inorganics																					
Conductivity	mS/cm	0.7																0.499	0.486	0.373	
Cyanide, Weak Acid Dissociable	ug/g	0.051																0.05 U	0.05 U	0.05 U	
рН	pH UNITS																	7.37	7.44	8.19	
Sodium Absorption Ratio	SAR	5																10.1	7.63	5.12	10.2
Metals																					
Antimony	ug/g	7.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
Arsenic	ug/g	18	1	2	2	1	2	1	11	2	2	1	1	2	4	3	1 U	3	3.2	1.8	
Barium	ug/g	390	18	37	12	11	12	12	11	17	17	18	31	28	34	35	10	36.5	41.4	9.4	
Beryllium	ug/g	4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U									
Boron	ug/g	120	0.1 U	0.1 U	0.1 U	0.1 U	0.1	0.1 U	0.1 U	0.1 U	0.1	0.1 U	0.1 U	0.2	0.2	0.7	0.1 U	5 U	6.3	5 U	
Boron (Hot Water Ext.)	ug/g	1.5																0.29	0.26	0.1 U	
Cadmium	ug/g	1.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U									
Chromium	ug/g	160	7	12	5	4	6	5	6	7	6	8	4	7	9	12	5	12.9	15.2	5.6	
Chromium, Hexavalent (Cr6+)	ug/g	8	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	0.2 U	0.2 U	0.2 U	

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		Location Sample ID		BH-04	BH-05	BH-06	BH-07		8-MW4	BH-09	BH-10	BH-11	BH-13	BH-14			BH-17-MW5S	DUP1		H200 BH200-7.5-9.5	BH300 4F
			BH-3 (SS2)	BH-4 (SS2)	BH-5 (SS2)	BH-6 (SS5)			BH-X-NOV25				BH-13 (SS3)				BH-17 (SS3)				
		•	11/27/2008	11/26/2008	11/25/2008			11/25/2008	11/25/2008		11/2//2008		11/25/2008	11/25/2008		11/26/2008	11/27/2008	7/23/2019		8/12/2019	8/12/201
		Sample Type		N	N	N	N	N 2.2	N	N 1.5	N	N	N 1.5	N O C	N	N O O	N A F	FD	N	N 2.20	N
		Start Depth		0.8	0.8	3.1	0.8	2.3	2.3	1.5	0	0.8	1.5	0.8	0	0.8	1.5	0.89	0.89	2.29	4.57
		End Depth	1.4	1.4	1.4	3.7	1.2	2.9	2.9	2.2	0.6	1.4	2	1.4	0.6	1.4	2.1	1.01	1.01	2.9	5.18
Analyte	Units	Table 2 SCS ^a																			
Cobalt	ug/g	22	3	6	2	2	2	2	2	3	3	3	1	2	3	5	2	3.9	4.8	1.7	
Copper	ug/g	140	8	11	5	4	8	6	6	8	11	8	7	16	22	11	6	11.9	12.7	10.2	
Lead	ug/g	120	14	12	15	199	18	8	14	13	17	11	35	29	52	16	6	18.8	17.2	6.3	
Mercury	ug/g	0.27	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.23	0.09	0.09	0.05 U	0.05 U	0.0314	0.0247	0.005 U	
Methyl Mercury	mg/kg	0.0084																			
Molybdenum	ug/g	6.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
Nickel	ug/g	100	5	11	4	3	4	3	3	5	5	5	2	4	7	9	3	8.3	9.8	3.4	
Selenium	ug/g	2.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
Silver	ug/g	20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Thallium	ug/g	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	0.5 U	0.5 U	0.5 U	
Uranium	ug/g	23																1 U	1 U	1 U	
Vanadium	ug/g	86	8	14	6	4	5	4	4	7	8	9	3	10	13	17	12	25.9	30.9	10.8	
Zinc	ug/g	340	102	57	91	71	66	47	49	172	99	44	79	63	124	103	31	81.3	76.7	41.9	
Other																					
Calcium	mg/l	NV																7.59	9.5	6.47	8.55
Magnesium	mg/l	NV																0.98 J	4.16 J	2.06	1.84
Sodium	mg/l	NV																111	112	58.4	126
Polyaromatic Hydrocarbons (PAHs)																					-
1-Methylnaphthalene	ug/g	0.99	0.05 U								0.05 U	0.05 U		0.05 U				0.03 U	0.03 U	0.03 U	
2-(1-)Methylnaphthalene	ug/g	0.99																0.042 U	0.042 U	0.042 U	
2-Methylnaphthalene	ug/g	0.99	0.05 U								0.05 U	0.05 U		0.05 U				0.03 U	0.03 U	0.03 U	
Acenaphthene	ug/g	7.9	0.05 U								0.05 U	0.05 U		0.05 U				0.05 U	0.05 U	0.05 U	
Acenaphthylene	ug/g	0.15	0.05 U								0.05 U	0.05 U		0.05 U				0.05 U	0.05 U	0.05 U	
Anthracene	ug/g	0.67	0.05 U								0.05 U	0.05 U		0.05 U				0.05 U	0.05 U	0.05 U	
Benzo(a)anthracene	ug/g	0.5	0.05 U								0.05 U	0.05 U		0.14				0.05 U	0.05 U	0.05 U	
Benzo(a)pyrene	ug/g	0.3	0.02 U								0.02 U	0.02 U		0.24				0.05 U	0.05 U	0.05 U	
Benzo(b)fluoranthene	ug/g	0.78	0.05 U								0.05 U	0.05 U		0.18				0.05 U	0.05 U	0.05 U	
Benzo(g,h,i)perylene	ug/g	6.6	0.05 U								0.05 U	0.05 U		0.22				0.05 U	0.05 U	0.05 U	
Benzo(k)fluoranthene	ug/g	0.78	0.05 U								0.05 U	0.05 U		0.11				0.05 U	0.05 U	0.05 U	
Chrysene	ug/g	7	0.05 U								0.05 U	0.05 U		0.18				0.05 U	0.05 U	0.05 U	
Dibenzo(a,h)anthracene	ug/g	0.1	0.05 U								0.05 U	0.05 U		0.13				0.05 U	0.05 U	0.05 U	
Fluoranthene	ug/g	0.69	0.05 U								0.05 U	0.05 U		0.19				0.05 U	0.05 U	0.05 U	
Fluorene	ug/g	62	0.05 U								0.05 U	0.05 U		0.05 U				0.05 U	0.05 U	0.05 U	
Indeno(1,2,3-Cd)Pyrene		0.38	0.05 U								0.05 U	0.05 U		0.14				0.05 U	0.05 U	0.05 U	
Naphthalene	ug/g	0.6	0.05 U								0.05 U	0.05 U		0.05 U				0.03 U	0.013 U	0.03 U	
Phenanthrene	ug/g	6.2	0.05 U								0.05 U	0.05 U		0.03 0				0.046 U	0.046 U	0.046 U	
Pyrene	ug/g	78	0.05 U								0.05 U	0.05 U		0.09				0.046 U	0.048 U	0.046 U	
Polychlorinated Biphenyls (PCBs)	ug/g	7.0	0.05 0								0.05 0	0.05 0		0.17				0.05 0	0.05 0	0.05 0	
	/-	NV	l		T		T		I					1				0.0111	0.0111		
Arcelor 1242	ug/g																	0.01 U	0.01 U		
Arcelor 1248	ug/g	NV NV																0.01 U	0.01 U		
Aroclor 1254	ug/g	NV																0.01 U	0.01 U		
Aroclor 1260	ug/g	NV																0.01 U	0.01 U		
PCB, Total	ug/g	0.35		0.01 U				0.01 U	0.01 U							0.01 U		0.02 U	0.02 U		
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	,	1 02:	0.000	I	1	I	I	0.000	0.000			I	1	0.000			l	0.001011	0.001011	0.001011	1
Benzene	ug/g	0.21	0.002 U					0.002 U	0.002 U					0.002 U				0.0068 U	0.0068 U	0.0068 U	
Ethylbenzene	ug/g	1.1	0.002 U					0.002 U	0.002 U					0.002 U				0.018 U	0.018 U	0.018 U	
Toluene	ug/g	2.3	0.003					0.002 U	0.002 U					0.002 U				0.08 U	0.08 U	0.08 U	
Xylene, o	ug/g	NV	0.002 U					0.002 U	0.002 U					0.002 U				0.02 U	0.02 U	0.02 U	
Xylenes, m & p	ug/g	NV	0.002 U					0.002 U	0.002 U					0.002 U				0.03 U	0.03 U	0.03 U	
Xylenes, Total	ug/g	3.1	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
Petroleum Hydrocarbons (PHCs)								1									ı				
Gravimetric Heavy Hydrocarbons	ug/g	2800																			
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV																5 U	5 U	5 U	
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U	5 U				5 U	5 U			5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler		NV																10 U	10 U	10 U	
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	10 U	10 U				10 U	10 U			10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV																50 U	50 U	50 U	
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300	50 U	50 U				50 U	50 U			50 U	56	50 U	107	50 U	50 U	50 U	50 U	50 U	
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	50 U	50 U				50 U	50 U			50 U	600	56	900	50 U	50 U	50 U	50 U	50 U	
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV																72 U	72 U	72 U	
Physical/Chemistry																					
Average Fraction Organic Carbon	None	NV																			
Clay (less than 0.005mm), USCS	%	NV																			
Coarse Sand (2.0 to 4.75mm), USCS	%	NV																			
Fine Sand (0.074 to 0.425mm), USCS	%	NV																			
Fraction Organic Carbon	None	NV																			
Fraction Organic Carbon (Rep1)	None	NV																			

Table 6-5. Summary of Analytical Results in Soil

Guelph, Ontario

		Location	BH-03	BH-04	BH-05	BH-06	BH-07	BH-08	B-MW4	BH-09	BH-10	BH-11	BH-13	BH-14	BH-15-MW3	BH-16-MW2	BH-17-MW5S		Е	3H200	
		Sample ID	BH-3 (SS2)	BH-4 (SS2)	BH-5 (SS2)	BH-6 (SS5)	BH-7 (SS2)	BH-8 (SS4)	BH-X-NOV25	BH-9 (SS3)	BH-10 (SS1)) BH-11 (SS2)	BH-13 (SS3)	BH-14 (SS2)	BH-15 (SS1)	BH-16 (SS2)	BH-17 (SS3)	DUP1	BH200-35-40	BH200-7.5-9.5	5 BH200-15-17
		Sample Date	11/27/2008	11/26/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/25/2008	11/26/2008	11/27/2008	8 11/27/2008	11/25/2008	11/25/2008	11/26/2008	11/26/2008	11/27/2008	7/23/2019	7/23/2019	8/12/2019	8/12/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	FD	N	N	N
		Start Depth	0.8	0.8	0.8	3.1	0.8	2.3	2.3	1.5	0	0.8	1.5	0.8	0	0.8	1.5	0.89	0.89	2.29	4.57
		End Depth	1.4	1.4	1.4	3.7	1.2	2.9	2.9	2.2	0.6	1.4	2	1.4	0.6	1.4	2.1	1.01	1.01	2.9	5.18
Analyte	Units	Table 2 SCS ^a																			
Gravel (4.75 to 76mm), USCS	%	NV																			
Medium Sand (0.425 to 2.0mm), USCS	%	NV																			
Moisture	%	NV																10.8	10.9	4.42	
Silt (0.005 to 0.074mm), USCS	%	NV																			
Total Organic Carbon	%	NV																			
Total Organic Carbon (Rep1)	%	NV																			
Total Organic Carbon (Rep2)	%	NV																			
Volatile Organic Carbons (VOCs)																					
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.008 U					0.008 U	0.008 U					0.008 U				0.05 U	0.05 U	0.05 U	
1,1,1-Trichloroethane	ug/g	0.38	0.008 U					0.008 U	0.008 U					0.008 U				0.05 U	0.05 U	0.05 U	
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.004 U					0.004 U	0.004 U					0.004 U				0.05 U	0.05 U	0.05 U	
1,1,2-Trichloroethane	ug/g	0.05	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
1,1-Dichloroethane	ug/g	0.47	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
1,1-Dichloroethene	ug/g	0.05	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
1,2-Dibromoethane	ug/g	0.05	0.004 U					0.004 U	0.004 U					0.004 U				0.05 U	0.05 U	0.05 U	
1,2-Dichlorobenzene	ug/g	1.2	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
1,2-Dichloroethane	ug/g	0.05	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
1,2-Dichloropropane	ug/g	0.05	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
1,3-Dichlorobenzene	ug/g	4.8	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
1,3-Dichloropropene	ug/g	0.05																0.042 U	0.042 U	0.042 U	
1,4-Dichlorobenzene	ug/g	0.083	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
2-Butanone	ug/g	16	0.2 U					0.2 U	0.2 U					0.2 U				0.5 U	0.5 U	0.5 U	
4-Methyl-2-Pentanone	ug/g	1.7	0.2 U					0.2 U	0.2 U					0.2 U				0.5 U	0.5 U	0.5 U	
Acetone	ug/g	16	0.5 U					0.5 U	0.5 U					0.5 U				0.5 U	0.5 U	0.5 U	
Bromodichloromethane	ug/g	1.5	0.005 U					0.005 U	0.005 U					0.005 U				0.05 U	0.05 U	0.05 U	
Bromoform	ug/g	0.27	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
Bromomethane	ug/g	0.05	0.003 U					0.003 U	0.003 U					0.003 U				0.05 U	0.05 U	0.05 U	
Carbon tetrachloride	ug/g	0.05	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
Chlorobenzene	ug/g	2.4	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
Chlorodibromomethane	ug/g	2.3	0.003 U					0.003 U	0.003 U					0.003 U				0.05 U	0.05 U	0.05 U	
Chloroform	ug/g	0.05	0.006 U					0.006 U	0.006 U					0.006 U				0.05 U	0.05 U	0.05 U	
cis-1,2-Dichloroethene	ug/g	1.9	0.02 U					0.02 U	0.02 U					0.02 U				0.05 U	0.05 U	0.05 U	
cis-1,3-Dichloropropene	ug/g	NV	0.003 U					0.003 U	0.003 U					0.003 U				0.03 U	0.03 U	0.03 U	
Dichlorodifluoromethane	ug/g	16	0.03 U					0.03 U	0.03 U					0.03 U				0.05 U	0.05 U	0.05 U	
Dichloromethane	ug/g	0.1	0.003 U					0.003 U	0.003 U					0.003 U				0.05 U	0.05 U	0.05 U	
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.2 U					0.2 U	0.2 U					0.2 U				0.05 U	0.05 U	0.05 U	
n-Hexane	ug/g	2.8																0.05 U	0.05 U	0.05 U	
Styrene	ug/g	0.7	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
Tetrachloroethene	ug/g	0.28	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
trans-1,2-Dichloroethene	ug/g	0.084	0.002 U					0.002 U	0.002 U					0.002 U				0.05 U	0.05 U	0.05 U	
trans-1,3-Dichloropropene	ug/g	NV	0.003 U					0.003 U	0.003 U					0.003 U				0.03 U	0.03 U	0.03 U	
Trichloroethylene	ug/g	0.061	0.004 U					0.004 U	0.004 U					0.004				0.01 U	0.01 U	0.01 U	
Trichlorofluoromethane	ug/g	4	0.03 U					0.03 U	0.03 U					0.03 U				0.05 U	0.05 U	0.05 U	
Vinyl Chloride	ug/g	0.02	0.003 U					0.003 U	0.003 U					0.003 U				0.02 U	0.02 U	0.02 U	

^a MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment. April 15.

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram

mg/L = milligram(s) per litre mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification NV = no value available in applicable standards

-- = Analyte not analyzed

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario

		Location				BH201					3H202			BH203				H204	
		Sample ID [BH201-1-1.5'	BH201-4-4.5'	BH201-7.5-9.5	BH201-12.5-12.11	BH201-12.11"-13.2	BH201-25-27	BH202-2-2.5'	DUP11	BH202-10-12	BH202-15-16.5	BH203-0.5-2	BH203-7.5-9.5	5 BH203-15-17	BH204 - 2.5-3.5	BH204-11-12	BH204-15-15.11	BH204-17.5-18.9
		Sample Date	7/24/2019	7/24/2019	8/21/2019	8/21/2019	8/21/2019	8/21/2019	7/22/2019	8/12/2019	8/12/2019	8/12/2019	8/20/2019	8/20/2019	8/20/2019	7/30/2019	8/22/2019	8/22/2019	8/22/2019
		Sample Type	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
		Start Depth	0.3	1.22	2.29	3.81	3.94	7.62	0.61	3.05	3.05	4.57	0.15	2.29	4.57	0.76	3.35	4.57	5.33
		End Depth	0.46	1.37	2.9	3.94	4.02	8.23	0.76	3.66	3.66	5.03	0.61	2.9	5.18	1.07	3.66	4.85	5.71
Analyte	Units	Table 2 SCS ^a																	
Acids, Bases, Neutrals (ABNs)												1							
1,1'-Biphenyl	ug/g	0.31																	
1,2,4-Trichlorobenzene 2,4 & 2,6-Dinitrotoluene	ug/g	0.36 0.5																	
2,4-Dimethylphenol	ug/g ug/g	38																	
2,4-Dinitrophenol	ug/g	2																	
2,4-Dinitrotoluene	ug/g	0.5																	
2,6-Dinitrotoluene	ug/g	0.5																	
3,3'-Dichlorobenzidine	ug/g	1																	
4-Chloroaniline	ug/g	0.5																	
Bis (2-chloroethyl) ether	ug/g	0.5																	
bis (2-Chloroisopropyl) ether	ug/g	0.67																	
Bis (2-ethylhexyl) phthalate	ug/g	5																	
Diethylphthalate	ug/g	0.5																	
Dimethylphthalate	ug/g	0.5																	
Phenol Dioxins/Furans	ug/g	9.4																	
1,2,3,4,6,7,8-HpCDD	no/o	NV																	
1,2,3,4,6,7,8-HPCDF	pg/g	NV																	
1,2,3,4,7,8,9-HpCDF	pg/g pg/g	NV																	
1,2,3,4,7,8-HxCDD	pg/g	NV																	
1,2,3,4,7,8-HxCDF	pg/g	NV																	
1,2,3,6,7,8-HxCDD	pg/g	NV																	
1,2,3,6,7,8-HxCDF	pg/g	NV																	
1,2,3,7,8,9-HxCDD	pg/g	NV																	
1,2,3,7,8,9-HxCDF	pg/g	NV																	
1,2,3,7,8-PeCDD	pg/g	NV																	
1,2,3,7,8-PeCDF	pg/g	NV																	
2,3,4,6,7,8-HxCDF	pg/g	NV																	
2,3,4,7,8-PeCDF	pg/g	NV																	
2,3,7,8-TCDD	pg/g	NV																	
2,3,7,8-TCDF Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	NV 13																	
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13					 												
OCDD	pg/g pg/g	NV																	
OCDF	pg/g	NV																	
Total HpCDD	pg/g	NV																	
Total HpCDD # Homologues	None	NV																	
Total HpCDF	pg/g	NV																	
Total HpCDF # Homologues	None	NV																	
Total HxCDD	pg/g	NV																	
Total HxCDD # Homologues	None	NV																	
Total HxCDF	pg/g	NV																	
Total HxCDF # Homologues	None	NV																	
Total PeCDD	pg/g	NV NV																	
Total PoCDE	None	NV																	
Total PeCDF Total PeCDF # Homologues	pg/g None	NV NV																	
Total TCDD	None pg/g	NV NV																	
Total TCDD # Homologues	None	NV																	
Total TCDF	pg/g	NV																	
Total TCDF # Homologues	None	NV																	
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13																	
Inorganics	, , , , , ,																		
Conductivity	mS/cm	0.7	0.332	0.655	1.04		1.03	0.553	0.96	1.86	1.97	1.8	0.75	1.26	1.31	0.61	0.508		
Cyanide, Weak Acid Dissociable	ug/g	0.051	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
рН	pH UNITS	NV	8.11	7.98	8.09				8.12	8.31	8.18			8.33			8.06		
Sodium Absorption Ratio	SAR	5	7.34	22.7	23.3		47.6 J	4.27	26.1	43.5	70.3 J	36.9	5.24	19	16.2	11.1	7.51	6.49	8.4
Metals							I					I							
Antimony	ug/g	7.5	10	10	1 U				1 U	10	1 U		10	10		10	10		
Arsenic	ug/g	18	3.9	1.8	1.6				1.9	10	10		2.5	1.9		3.3	1.8		
Barium	ug/g	390	32	16.8	17.6				16	8.4	9.1		29.7	18.4		54.3	12.2		
Beryllium Boron	ug/g	120	0.5 U	0.5 U	0.5 U				0.5 U 5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U 5 U		
Boron Boron (Hot Water Ext.)	ug/g	120 1.5	6.7 0.1 U	5 U 0.1 U	5 U 0.1 U				0.1 U	5 U 0.1 U	5 U 0.1 U		5.3 0.15	5.6 0.1 U		5 U 0.46	0.12		
Cadmium	ug/g ug/g	1.5	0.1 U	0.1 U	0.1 U				0.1 U	0.1 U	0.1 U		0.15 0.5 U	0.1 U		0.46 0.5 U	0.12 0.5 U		
Chromium	ug/g	160	11.9	7.6	6.9				7.8	4.9	5.2		8.2	7.9		15.2	6.5		

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario

Guelph, Ontario		Location				BH201					BH202			BH203			В	BH204	
				BH201-4-4.5'	BH201-7.5-9.5		BH201-12.11"-13.2	BH201-25-27	BH202-2-2.5'	_		BH202-15-16.5	BH203-0.5-2		BH203-15-17	BH204 - 2.5-3.5	_	BH204-15-15.11	BH204-17.5-18
		•	7/24/2019	7/24/2019	8/21/2019	8/21/2019	8/21/2019	8/21/2019	7/22/2019	8/12/2019		8/12/2019	8/20/2019	8/20/2019	8/20/2019	7/30/2019	8/22/2019	8/22/2019	8/22/2019
		Sample Type	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	N	N
		Start Depth		1.22	2.29	3.81	3.94	7.62	0.61	3.05	3.05	4.57	0.15	2.29	4.57	0.76	3.35	4.57	5.33
		End Depth	0.46	1.37	2.9	3.94	4.02	8.23	0.76	3.66	3.66	5.03	0.61	2.9	5.18	1.07	3.66	4.85	5.71
Analyte	Units	Table 2 SCS ^a																	
Cobalt	ug/g	22	4.5	2.7	2.5				2.6	1.4	1.4		2	2.7		4.8	2.2		
Copper	ug/g	140	18.9	7.8	6.2				7.3	3.4	3.9		9.2	7.4		9.7	5.9		
Lead	ug/g	120	34.9	8.9	6.8				11.1	4	5		30.6	10.8		25.3	15.4		
Mercury	ug/g	0.27	0.0192	0.0078	0.0057				0.0065	0.005 U	0.005 U		0.24 5E-05 U	0.005 U		0.0848	0.005 U		
Methyl Mercury Molybdenum	mg/kg	6.9	 1 U	1 U	1 U				1 U	1 U	1 U		1 U	1 U		1 U	1 U		
Nickel	ug/g ug/g	100	9.3	5.7	5.5				5.4	2.7	3.1		5.1	5.6		8.6	5		
Selenium	ug/g	2.4	1 U	1 U	1 U				1 U	1 U	1 U		1 U	1 U		1 U	10		
Silver	ug/g	20	0.2 U	0.2 U	0.2 U				0.2 U	0.2 U	0.2 U		0.2 U	0.2 U		0.2 U	0.2 U		
Thallium	ug/g	1	0.5 U	0.5 U	0.5 U				0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U		
Uranium	ug/g	23	1 U	1 U	1 U				1 U	1 U	1 U		1 U	1 U		1 U	1 U		
Vanadium	ug/g	86	24	14.1	13.2				14.7	10.1	9.9		13.3	15.5		32.8	13.8		
Zinc	ug/g	340	246	70.8	41.5				80.9	32.4	36.9		89.5	72		73.6	53.5		
Other																			
Calcium	mg/l	NV	3.62	1.52	3.09		1.31	15.8	2.12	4.04	2.1	3.34	3.15	3.79	7.03	7.86	6.34	4.37	3.9
Magnesium	mg/l	NV	3.5	0.66	1		0.5 U	4.77	1.29	0.54	0.5 U	1.6	6.32	1.72	5.64	1.82	1.1	1.37	0.85
Sodium	mg/l	NV	81.7	133	184		198	75.5	195	351	370	328	70.1	178	238	133	77.9	60.7	70.2
Polyaromatic Hydrocarbons (PAHs)																	0.5		
1-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U	0.03 U				0.03 U	0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U		
2-(1-)Methylnaphthalene	ug/g	0.99	0.042 U	0.042 U	0.042 U				0.042 U	0.042 U	0.042 U		0.042 U	0.042 U		0.042 U	0.042 U		
2-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U	0.03 U				0.03 U	0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U		
Acenaphthene Acenaphthylene	ug/g ug/g	7.9 0.15	0.05 U 0.05 U	0.05 U 0.05 U	0.05 U 0.05 U				0.05 U 0.05 U	0.05 U 0.05 U	0.05 U 0.05 U		0.05 U 0.05 U	0.05 U 0.05 U		0.05 U 0.05 U	0.05 U 0.05 U		
Anthracene	ug/g ug/g	0.67	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Benzo(a)anthracene	ug/g ug/g	0.5	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Benzo(a)pyrene	ug/g	0.3	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.073	0.05 U		0.05 U	0.05 U		
Benzo(b)fluoranthene	ug/g	0.78	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.104	0.05 U		0.05 U	0.05 U		
Benzo(g,h,i)perylene	ug/g	6.6	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.102	0.05 U		0.05 U	0.05 U		
Benzo(k)fluoranthene	ug/g	0.78	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Chrysene	ug/g	7	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.056	0.05 U		0.05 U	0.05 U		
Dibenzo(a,h)anthracene	ug/g	0.1	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Fluoranthene	ug/g	0.69	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.063	0.05 U		0.063	0.05 U		
Fluorene	ug/g	62	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Indeno(1,2,3-Cd)Pyrene	ug/g	0.38	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.065	0.05 U		0.05 U	0.05 U		
Naphthalene	ug/g	0.6	0.013 U	0.013 U	0.013 U				0.013 U	0.013 U	0.013 U		0.013 U	0.013 U		0.013 U	0.013 U		
Phenanthrene	ug/g	6.2	0.046 U	0.046 U	0.046 U				0.046 U	0.046 U	0.046 U		0.046 U	0.046 U		0.046 U	0.046 U		
Pyrene	ug/g	78	0.05 U	0.05 U	0.05 U				0.05 U	0.05 U	0.05 U		0.067	0.05 U		0.057	0.05 U		
Polychlorinated Biphenyls (PCBs)		.		1		l	1		1		1	1		1		I		I	
Aroclor 1242	ug/g	NV																	
Aroclor 1248 Aroclor 1254	ug/g	NV NV																	
Aroclor 1254 Aroclor 1260	ug/g	NV																	
PCB, Total	ug/g ug/g	0.35																	
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	ug/g	0.55																	
Benzene	ug/g	0.21	0.0068 U	0.0068 U	0.0068 U	0.0068 U			0.0068 U	0.0068 U	0.0068 U		0.0068 U	0.0068 U		0.0068 U	0.0068 U		
Ethylbenzene	ug/g	1.1	0.018 U	0.018 U	0.018 U	0.018 U			0.018 U	0.018 U	0.018 U		0.018 U	0.018 U		0.018 U	0.018 U		
Toluene	ug/g	2.3	0.08 U	0.08 U	0.08 U	0.08 U			0.08 U	0.08 U	0.08 U		0.08 U	0.08 U		0.08 U	0.08 U		
Xylene, o	ug/g	NV	0.02 U	0.02 U	0.02 U	0.02 U			0.02 U	0.02 U	0.02 U		0.02 U	0.02 U		0.02 U	0.02 U		
Xylenes, m & p	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U			0.03 U	0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U		
Xylenes, Total	ug/g	3.1	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Petroleum Hydrocarbons (PHCs)																			
Gravimetric Heavy Hydrocarbons	ug/g	2800				1290							1710						
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	5 U	5 U	5 U	5 U			5 U	5 U	5 U		5 U	5 U		5 U	5 U		
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U	5 U	5 U	5 U			5 U	5 U	5 U		5 U	5 U		5 U	5 U		
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler		NV	10 U	10 U	10 U				10 U	10 U	10 U		20 U	10 U		10 U	10 U		
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	10 U	10 U	10 U	10 U			10 U	10 U	10 U		20 U	10 U		10 U	10 U		
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV	50 U	50 U	50 U				50 U	50 U	50 U		190	50 U		50 U	50 U		
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300	50 U	50 U	50 U	290			50 U	50 U	50 U		190	50 U		50 U	50 U		
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	50 U	50 U	50 U	535			50 U	50 U	50 U		520	50 U		50 U	50 U		
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV	72 U	72 U	72 U	826			72 U	72 U	72 U		710	72 U		72 U	72 U		
Physical/Chemistry	Na:	NN/		1					1	T	1	1				0.0007	0.00411		
Average Fraction Organic Carbon Clay (less than 0.005mm), USCS	None %	NV NV	8.6						12.4							0.0087	0.001 U		
Clay (less than 0.005mm), USCS Coarse Sand (2.0 to 4.75mm), USCS	% %	NV	19.3				 		3.1										
Fine Sand (0.074 to 0.425mm), USCS	% %	NV	19.3						30.8										
Fraction Organic Carbon	None	NV					 		30.8							0.0086	0.001 U		
Fraction Organic Carbon (Rep1)	None	NV														0.0089	0.0010		

Table 6-5. Summary of Analytical Results in Soil

Guelph, Ontario

		Location				BH201				В	BH202			BH203			В	H204	
			BH201-1-1.5'	' BH201-4-4.5'	BH201-7.5-9.5		BH201-12.11"-13.2	BH201-25-27	BH202-2-2.5			BH202-15-16.5	BH203-0.5-2		BH203-15-17	BH204 - 2.5-3.5			BH204-17.5-18.9
		· ·	7/24/2019		8/21/2019	8/21/2019	8/21/2019	8/21/2019	7/22/2019			8/12/2019	8/20/2019	8/20/2019	8/20/2019	7/30/2019	8/22/2019	8/22/2019	8/22/2019
		Sample Type	N	N	N	N	N N	N	N	FD FD	N	N N	N	N	N	N	N N	N	N N
		Start Depth	0.3	1.22	2.29	3.81	3.94	7.62	0.61	3.05	3.05	4.57	0.15	2.29	4.57	0.76	3.35	4.57	5.33
		End Depth		1.37	2.9	3.94	4.02	8.23	0.76	3.66	3.66	5.03	0.61	2.9	5.18	1.07	3.66	4.85	5.71
Analyte	Units	Table 2 SCS ^a																	
Gravel (4.75 to 76mm), USCS	%	NV	30.1						19.9										
Medium Sand (0.425 to 2.0mm), USCS	%	NV	25.4						9.3										
Moisture	%	NV	4.11	8.41	11	8.05			5.69	7.33	6.27		4.29	6.81		16.4	6.34		
Silt (0.005 to 0.074mm), USCS	%	NV	5.6						24.7										
Total Organic Carbon	%	NV														0.86	0.1 U		
Total Organic Carbon (Rep1)	%	NV														0.89			
Total Organic Carbon (Rep2)	%	NV																	
Volatile Organic Carbons (VOCs)																			
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,1,1-Trichloroethane	ug/g	0.38	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,1,2-Trichloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,1-Dichloroethane	ug/g	0.47	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,1-Dichloroethene	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,2-Dibromoethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,2-Dichlorobenzene	ug/g	1.2	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,2-Dichloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,2-Dichloropropane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,3-Dichlorobenzene	ug/g	4.8	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
1,3-Dichloropropene	ug/g	0.05	0.042 U	0.042 U	0.042 U	0.042 U			0.042 U	0.042 U	0.042 U		0.042 U	0.042 U		0.042 U	0.042 U		
1,4-Dichlorobenzene	ug/g	0.083	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
2-Butanone	ug/g	16	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U		
4-Methyl-2-Pentanone	ug/g	1.7	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U		
Acetone	ug/g	16	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U		
Bromodichloromethane	ug/g	1.5	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Bromoform	ug/g	0.27	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Bromomethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Carbon tetrachloride	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Chlorobenzene	ug/g	2.4	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Chlorodibromomethane	ug/g	2.3	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Chloroform	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
cis-1,2-Dichloroethene	ug/g	1.9	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
cis-1,3-Dichloropropene	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U			0.03 U	0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U		
Dichlorodifluoromethane	ug/g	16	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 UJ	0.05 U		
Dichloromethane	ug/g	0.1	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.063 U	0.05 U		0.05 U	0.05 U		
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
n-Hexane	ug/g	2.8	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Styrene	ug/g	0.7	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Tetrachloroethene	ug/g	0.28	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
trans-1,2-Dichloroethene	ug/g	0.084	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
trans-1,3-Dichloropropene	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U			0.03 U	0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U		
Trichloroethylene	ug/g	0.061	0.01 U	0.01 U	0.01 U	0.01 U			0.01 U	0.01 U	0.01 U		0.01 U	0.01 U		0.01 U	0.01 U		
Trichlorofluoromethane	ug/g	4	0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U		
Vinyl Chloride	ug/g	0.02	0.02 U	0.02 U	0.02 U	0.02 U			0.02 U	0.02 U	0.02 U		0.02 U	0.02 U		0.02 U	0.02 U		

^a MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment. April 15.

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram

mg/L = milligram(s) per litre mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification

NV = no value available in applicable standards

-- = Analyte not analyzed

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario

ачерп, опсино		Location			E	H205				В	3H206		В	BH207		BH208				BH209	
		Sample ID	DUP10	BH205-0.5-2			BH205-10-12	BH205-12.5-15	BH206-1-2'		BH206-12.5-14.	5 DUP15		BH207I-7.5-9.5	BH208-3-3.5		BH208-7.5-8	DUP 2	DUP 3	BH209-0.4-0.75	BH209-2-2.4
		Sample Date 8	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	7/25/2019	8/19/2019	8/19/2019	8/19/2019	4/9/2020	4/9/2020	11/12/2019	11/21/2019	11/21/2019	11/13/2019	11/13/201	11/13/2019	11/13/2019
		Sample Type	FD	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	FD	FD	N	N
		Start Depth	2.29	0	0.76	2.29	3.05	3.81	0.3	2.29	3.81	3.81	0.3	2.29	0.91	2.29	2.29	0.12	0.61	0.12	0.61
		End Depth	2.9	0.61	1.37	2.9	3.66	4.57	0.61	2.9	4.42	4.42	0.61	2.9	1.07	2.44	2.44	0.23	0.73	0.23	0.73
Analyte	Units	Table 2 SCS ^a																			
Acids, Bases, Neutrals (ABNs)																					_
1,1'-Biphenyl	ug/g	0.31																			
1,2,4-Trichlorobenzene	ug/g	0.36																			
2,4 & 2,6-Dinitrotoluene	ug/g	0.5																			
2,4-Dimethylphenol	ug/g	38																			
2,4-Dinitrophenol 2,4-Dinitrotoluene	ug/g	0.5																			
2,6-Dinitrotoluene	ug/g ug/g	0.5																			
3,3'-Dichlorobenzidine	ug/g	1																			
4-Chloroaniline	ug/g	0.5																			
Bis (2-chloroethyl) ether	ug/g	0.5																			
bis (2-Chloroisopropyl) ether	ug/g	0.67																			
Bis (2-ethylhexyl) phthalate	ug/g	5																			
Diethylphthalate	ug/g	0.5																			
Dimethylphthalate	ug/g	0.5																			
Phenol	ug/g	9.4																			
Dioxins/Furans																					
1,2,3,4,6,7,8-HpCDD	pg/g	NV																			
1,2,3,4,6,7,8-HpCDF	pg/g	NV																			
1,2,3,4,7,8,9-HpCDF	pg/g	NV																			
1,2,3,4,7,8-HxCDD	pg/g	NV																			
1,2,3,4,7,8-HxCDF	pg/g	NV																			
1,2,3,6,7,8-HxCDD	pg/g	NV																			
1,2,3,6,7,8-HxCDF	pg/g	NV																			
1,2,3,7,8,9-HxCDD	pg/g	NV																			
1,2,3,7,8,9-HxCDF	pg/g	NV																			
1,2,3,7,8-PeCDD	pg/g	NV																			
1,2,3,7,8-PeCDF 2,3,4,6,7,8-HxCDF	pg/g	NV NV																			
2,3,4,7,8-PeCDF	pg/g	NV																			
2,3,7,8-TCDD	pg/g pg/g	NV																			
2,3,7,8-TCDF	pg/g pg/g	NV																			
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13																			
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13																			
OCDD	pg/g	NV																			
OCDF	pg/g	NV																			
Total HpCDD	pg/g	NV																			
Total HpCDD # Homologues	None	NV																			
Total HpCDF	pg/g	NV																			
Total HpCDF # Homologues	None	NV																			
Total HxCDD	pg/g	NV																			
Total HxCDD # Homologues	None	NV																			
Total HxCDF	pg/g	NV																			
Total HxCDF # Homologues	None	NV																			
Total PeCDD	pg/g	NV																			
Total PeCDD # Homologues	None	NV																			
Total PeCDF	pg/g	NV																			
Total PeCDF # Homologues Total TCDD	None pa/a	NV NV																			
Total TCDD # Homologues	pg/g None	NV																			
Total TCDF # Homologues		NV																			
Total TCDF # Homologues	pg/g None	NV																			
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13																			
Inorganics	P9/ 9	13																			
Conductivity	mS/cm	0.7		0.445			0.53		0.179	0.554	0.628	0.643									
Cyanide, Weak Acid Dissociable	ug/g	0.051		0.05 U			0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
рН	pH UNITS			8.06			8.3		8.07	7.94	7.89	7.91									
Sodium Absorption Ratio	SAR	5		10.1			23.3 J	7.18	0.17	2.75	1.55	1.64									
Metals																					
Antimony	ug/g	7.5		1 U			1 U		1 U	1 U	1 U	1 U							1 U	1 U	1 U
Arsenic	ug/g	18		3.2			1.3		2.2	2.7	2.6	2.5							2.5	3.1	2.7
Barium	ug/g	390		37.3			8.6		13	47.8	45.9	43.4							28.7	26.4	31.4
Beryllium	ug/g	4		0.5 U			0.5 U		0.5 U	0.5 U	0.5 U	0.5 U							0.5 U	0.5 U	0.5 U
Boron	ug/g	120		5			5 U		5 U	8.2	9.1	6.9							5 U	5 U	5 U
Boron (Hot Water Ext.)	ug/g	1.5		0.14			0.1 U		0.1 U	0.21	0.11	0.11									
Cadmium	ug/g	1.2		0.5 U			0.5 U		0.5 U	0.5 U	0.5 U	0.5 U							0.5 U	0.5 U	0.5 U
Chromium	ug/g	160		8.8			5.1		5.9	17	16.6	15.1							11.6	5.6	12.5
Chromium, Hexavalent (Cr6+)	ug/g	8		0.2 U			0.2 U		0.2 U	0.2 U	0.2 U	0.2 U									

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario

		Location				BH205	1				206			1207		BH208				1209	
		Sample ID	DUP10	BH205-0.5-2	BH205-2.5-4.5	BH205-7.5-9.5	BH205-10-12	BH205-12.5-15	BH206-1-2' I	BH206-7.5-9.5	BH206-12.5-14.5			BH207I-7.5-9.5	BH208-3-3.5	DUP 4	BH208-7.5-8	DUP 2	DUP 3	BH209-0.4-0.75	BH209-2-2.4
		Sample Date	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	7/25/2019	8/19/2019	8/19/2019	8/19/2019	4/9/2020	4/9/2020	11/12/2019	11/21/2019	11/21/2019	11/13/2019	11/13/2019	11/13/2019	11/13/2019
		Sample Type	FD	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	FD	FD	N	N
		Start Depth	2.29	0	0.76	2.29	3.05	3.81	0.3	2.29	3.81	3.81	0.3	2.29	0.91	2.29	2.29	0.12	0.61	0.12	0.61
		End Depth	2.9	0.61	1.37	2.9	3.66	4.57	0.61	2.9	4.42	4.42	0.61	2.9	1.07	2.44	2.44	0.23	0.73	0.23	0.73
Analyte	Units	Table 2 SCS ^a																			
Cobalt	ug/g	22		2.5			1.5		2.5	7	6.5	6.2							4.2	2.7	4.4
Copper	ug/g	140		11.4			5.1		10	14.3	13.4	13.4							9.8	23.6	11
Lead	ug/g	120		34.7			5.9		11.3	13.3	12.7	11.9							8.9	15.9	9.2
Mercury	ug/g	0.27		0.0809			0.005 U		0.0058	0.0159	0.0098	0.0101							0.018	0.0079	0.0198
Methyl Mercury	mg/kg	0.0084																			
Molybdenum	ug/g	6.9		1 U			1 U		1 U	1 U	1 U	1 U							1 U	1 U	1 U
Nickel	ug/g	100		6			3.3		5	15.4	13.7	13.1							8.2	6.6	9.5
Selenium	ug/g	2.4		1 U			1 U		1 U	1 U	1 U	1 U							1 U	1 U	1 U
Silver	ug/g	20		0.2 U			0.2 U		0.2 U	0.2 U	0.2 U	0.2 U							0.2 U	0.2 U	0.2 U
Thallium	ug/g	1		0.5 U			0.5 U		0.5 U	0.5 U	0.5 U	0.5 U							0.5 U	0.5 U	0.5 U
Uranium	ug/g	23		1 U			1 U		1 U	1 U	1 U	1 U							1 U	1 U	1 U
Vanadium	ug/g	86		16.1			10.4		14.4	27.4	26.3	24.9							23.9	13.2	24.3
Zinc	ug/g	340		124			51.1		90	72.3	73.4	71.7							40.9	114	43.1
Other																	1				
Calcium	mg/l	NV		3.58			1.38	13.4	17.7	23.1	51.1	51.2									
Magnesium	mg/l	NV		1.74			0.5 U	11.4	4.74	9.09	11.2	10.9									
Sodium (DAU)	mg/l	NV		92.7			99.3	148	3.21	61.7	47	49.6									
Polyaromatic Hydrocarbons (PAHs)		2.00			004	I	0.00::		0.037	0.02.17	0.007	0.00::			0.000	0.00	0.00::	I			
1-Methylnaphthalene	ug/g	0.99			0.06 U		0.03 U		0.03 U	0.03 U	0.03 U	0.03 U			0.032	0.03 U	0.03 U				
2-(1-)Methylnaphthalene	ug/g	0.99			0.085 U		0.042 U		0.042 U	0.042 U	0.042 U	0.042 U			0.067	0.042 U	0.042 U				
2-Methylnaphthalene	ug/g	0.99			0.06 U		0.03 U		0.03 U	0.03 U	0.03 U	0.03 U			0.034	0.03 U	0.03 U				
Acenaphthene	ug/g	7.9			0.05 U		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U				
Acenaphthylene	ug/g	0.15			0.05 U		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U				
Anthracene	ug/g	0.67			0.05 U		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U				
Benzo(a)anthracene	ug/g	0.5			0.098		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.087	0.05 U	0.05 U				
Benzo(a)pyrene	ug/g	0.3			0.134		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.085	0.05 U	0.05 U				
Benzo(b)fluoranthene	ug/g	0.78			0.178		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.106	0.05 U	0.05 U				
Benzo(g,h,i)perylene	ug/g	6.6			0.208		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.237	0.05 U	0.05 U				
Benzo(k)fluoranthene	ug/g	0.78			0.05 U		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U				
Chrysene Dibarra (a.b.) arthur and a	ug/g	7			0.145		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.113	0.05 U	0.05 U				
Dibenzo(a,h)anthracene	ug/g	0.1			0.05 U		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.05 U	0.05 U	0.05 U				
Fluoranthene	ug/g	0.69			0.133 0.05 U		0.05 U		0.05 U	0.05 U	0.05 U	0.05 U			0.16	0.05 U	0.05 U				
Fluorene	ug/g	62 0.38			0.05 U 0.111		0.05 U 0.05 U		0.05 U 0.05 U	0.05 U 0.05 U	0.05 U 0.05 U	0.05 U 0.05 U			0.05 U 0.077	0.05 U 0.05 U	0.05 U 0.05 U				
Indeno(1,2,3-Cd)Pyrene Naphthalene	ug/g	0.58			0.111 0.065 U		0.03 U		0.03 U	0.03 U	0.03 U	0.03 U			0.077	0.03 U	0.05 U				
Phenanthrene	ug/g	6.2			0.065 0		0.013 U		0.013 U	0.013 U	0.013 U	0.013 U			0.039	0.013 U	0.013 U				
Pyrene	ug/g	78			0.134		0.046 U		0.048 U	0.048 U	0.048 U	0.046 U			0.119	0.046 U	0.046 U				
Polychlorinated Biphenyls (PCBs)	ug/g	76			0.134		0.05 0		0.05 0	0.05 0	0.05 0	0.05 0			0.137	0.05 0	0.05 0				
Aroclor 1242	110/0	NV										I						0.01 U		0.01 U	0.01 U
Aroclor 1242 Aroclor 1248	ug/g ug/g	NV																0.01 U		0.01 U	0.01 U
Aroclor 1246 Aroclor 1254	ug/g	NV																0.01 U		0.01 U	0.01 U
Aroclor 1254 Aroclor 1260	ug/g	NV																0.01 U		0.01 U	0.01 U
PCB, Total	ug/g	0.35																0.02 U		0.02 U	0.02 U
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	ug/ g	0.55																0.02 0		0.02 0	0.02 0
Benzene	ug/g	0.21	0.0068 U			0.0068 U	0.0068 U		0.0068 U	0.0068 U	0.0068 U	0.0068 U									
Ethylbenzene	ug/g ug/g	1.1	0.0008 U			0.0008 U	0.0008 U		0.018 U	0.0008 U	0.0008 U	0.0008 U									
Toluene	ug/g	2.3	0.08 U			0.08 U	0.08 U		0.08 U	0.08 U	0.08 U	0.08 U									
Xylene, o	ug/g	NV NV	0.02 U			0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U									
Xylenes, m & p	ug/g	NV	0.03 U			0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	0.03 U									
Xylenes, Total	ug/g	3.1	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Petroleum Hydrocarbons (PHCs)																					
Gravimetric Heavy Hydrocarbons	ug/g	2800										I									
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	5 U			5 U	5 U		5 U	5 U	5 U	5 U									
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U			5 U	5 U		5 U	5 U	5 U	5 UJ	5 U	5 U							
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler		NV					10 U		10 U	10 U	10 U	10 U									
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	10 U			10 U	10 U		10 U	10 U	10 U	10 U	10 U	10 U							
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV					50 U		50 U	50 U	50 U	50 U									
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300	50 U			50 U	50 U		50 U	50 U	50 U	50 U	50 U	50 U							
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	50 U			50 U	50 U		50 U	50 U	50 U	50 U	50 U	50 U							
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV	72 U			72 U	72 U		72 U	72 U	72 U	72 U	72 U	72 U							
Physical/Chemistry	J. 3																				-
Average Fraction Organic Carbon	None	NV																			
Clay (less than 0.005mm), USCS	%	NV																			
Coarse Sand (2.0 to 4.75mm), USCS	%	NV																			
Fine Sand (0.074 to 0.425mm), USCS	%	NV																			
						1						1									
Fraction Organic Carbon	None	NV																			
	None None	NV NV																			

Table 6-5. Summary of Analytical Results in Soil

Guelph, Ontario

		Location			I	3H205				BH	1206		BI	1207		BH208			В	H209	
		Sample ID	DUP10	BH205-0.5-2	BH205-2.5-4.5	BH205-7.5-9.5	BH205-10-12	BH205-12.5-15	BH206-1-2'	BH206-7.5-9.5	BH206-12.5-14.5	DUP15	BH207I-1-2	BH207I-7.5-9.5	BH208-3-3.5	DUP 4	BH208-7.5-8	DUP 2	DUP 3	BH209-0.4-0.75	BH209-2-2.4
		Sample Date	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	8/12/2019	7/25/2019	8/19/2019	8/19/2019	8/19/2019	4/9/2020	4/9/2020	11/12/2019	11/21/2019	11/21/2019	11/13/2019	11/13/2019	11/13/2019	11/13/2019
		Sample Type	FD	N	N	N	N	N	N	N	N	FD	N	N	N	FD	N	FD	FD	N	N
		Start Depth	2.29	0	0.76	2.29	3.05	3.81	0.3	2.29	3.81	3.81	0.3	2.29	0.91	2.29	2.29	0.12	0.61	0.12	0.61
		End Depth	2.9	0.61	1.37	2.9	3.66	4.57	0.61	2.9	4.42	4.42	0.61	2.9	1.07	2.44	2.44	0.23	0.73	0.23	0.73
Analyte	Units	Table 2 SCS a																			
Gravel (4.75 to 76mm), USCS	%	NV																			
Medium Sand (0.425 to 2.0mm), USCS	%	NV																			
Moisture	%	NV	5.43	5.69	4.77	5.25	8.11		4.22	8.42	9.72	9.36	5.33	10.9	8.45	6.66	6.6	2.41	8.32	2.68	7.8
Silt (0.005 to 0.074mm), USCS	%	NV																			
Total Organic Carbon	%	NV																			
Total Organic Carbon (Rep1)	%	NV																			
Total Organic Carbon (Rep2)	%	NV																			
Volatile Organic Carbons (VOCs)																					
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,1,1-Trichloroethane	ug/g	0.38	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,1,2-Trichloroethane	ug/g	0.05	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,1-Dichloroethane	ug/g	0.47	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,1-Dichloroethene	ug/g	0.05	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,2-Dibromoethane	ug/g	0.05	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,2-Dichlorobenzene	ug/g	1.2	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,2-Dichloroethane	ug/g	0.05	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,2-Dichloropropane	ug/g	0.05	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,3-Dichlorobenzene	ug/g	4.8	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
1,3-Dichloropropene	ug/g	0.05	0.042 U			0.042 U	0.042 U		0.042 U	0.042 U	0.042 U	0.042 U									
1,4-Dichlorobenzene	ug/g	0.083	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
2-Butanone	ug/g	16	0.5 U			0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U									
4-Methyl-2-Pentanone	ug/g	1.7	0.5 U			0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U									
Acetone	ug/g	16	0.5 U			0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U									
Bromodichloromethane	ug/g	1.5	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Bromoform	ug/g	0.27	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Bromomethane	ug/g	0.05	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Carbon tetrachloride	ug/g	0.05	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Chlorobenzene	ug/g	2.4	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Chlorodibromomethane	ug/g	2.3	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Chloroform	ug/g	0.05	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
cis-1,2-Dichloroethene	ug/g	1.9	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
cis-1,3-Dichloropropene	ug/g	NV	0.03 U			0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	0.03 U									
Dichlorodifluoromethane	ug/g	16	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Dichloromethane	ug/g	0.1	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
n-Hexane		2.8	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Styrene	ug/g ug/g	0.7	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
Tetrachloroethene	ug/g	0.7	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
trans-1,2-Dichloroethene	ug/g ug/g	0.28	0.05 U			0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U									
trans-1,3-Dichloropropene		NV	0.03 U			0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	0.03 U									
Trichloroethylene	ug/g	0.061	0.03 U			0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	0.03 U									
Trichlorofluoromethane	ug/g	0.06 I	0.01 U			0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U									
Vinyl Chloride	ug/g	0.02	0.03 U			0.03 U	0.03 U		0.05 U	0.03 U	0.03 U	0.03 U									
villyt Chtoriae	ug/g	0.02	0.02 0			0.02 0	0.02 0		0.02 0	0.02 0	0.02 0	0.02 0									

^a MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment. April 15.

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram mg/L = milligram(s) per litre

mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification

NV = no value available in applicable standards

-- = Analyte not analyzed

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario

Guelph, Ontario		Location	ВН	1210	BH211		MW100			MW101			MV	V102B				MW103	
						MW100-1.25-1.5		MW100-15-17	MW101-1.5-2'		MW101-20-20.5	MW102-20-25			MW102-25-26	MW103-2-2.5'	MW103-12.5-14	MW103-17.5-19.5	MW103-22.5-24.5
				11/21/2019		7/24/2019	8/22/2019	8/22/2019	7/26/2019	8/21/2019	8/21/2019	7/23/2019	8/26/2019	8/26/2019	8/26/2019	7/22/2019	8/14/2019	8/14/2019	8/14/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		Start Depth End Depth	0.99 1.14	1.98 2.13	3.05 3.66	0.41	2.29	4.57 5.18	0.46 0.61	2.29	6.1 6.25	0.51 0.63	2.29	3.81 4.42	7.62 7.92	0.56 0.71	3.81 4.27	5.33 5.94	6.86 7.47
Analyte	Units	Table 2 SCS a	1,14	2.13	3.00	0.46	2.9	5.16	0.61	2.9	0.25	0.63	2.9	4.42	1.92	0.71	4.21	5.74	1.41
Acids, Bases, Neutrals (ABNs)	Offics	Table 2 3C3																	
1,1'-Biphenyl	ug/g	0.31																	
1,2,4-Trichlorobenzene	ug/g	0.36																	
2,4 & 2,6-Dinitrotoluene	ug/g	0.5																	
2,4-Dimethylphenol	ug/g	38																	
2,4-Dinitrophenol	ug/g	2																	
2,4-Dinitrotoluene 2.6-Dinitrotoluene	ug/g	0.5 0.5																	
3,3'-Dichlorobenzidine	ug/g ug/g	1																	
4-Chloroaniline	ug/g	0.5																	
Bis (2-chloroethyl) ether	ug/g	0.5																	
bis (2-Chloroisopropyl) ether	ug/g	0.67																	
Bis (2-ethylhexyl) phthalate	ug/g	5																	
Diethylphthalate	ug/g	0.5																	
Dimethylphthalate Phenol	ug/g	0.5 9.4																	
Dioxins/Furans	ug/g	7.4																	
1,2,3,4,6,7,8-HpCDD	pg/g	NV																	
1,2,3,4,6,7,8-HpCDF	pg/g	NV																	
1,2,3,4,7,8,9-HpCDF	pg/g	NV																	
1,2,3,4,7,8-HxCDD	pg/g	NV																	
1,2,3,4,7,8-HxCDF	pg/g	NV																	
1,2,3,6,7,8-HxCDD	pg/g	NV																	
1,2,3,6,7,8-HxCDF 1,2,3,7,8,9-HxCDD	pg/g	NV NV																	
1,2,3,7,8,9-HxCDF	pg/g pg/g	NV																	
1,2,3,7,8-PeCDD	pg/g	NV																	
1,2,3,7,8-PeCDF	pg/g	NV																	
2,3,4,6,7,8-HxCDF	pg/g	NV																	
2,3,4,7,8-PeCDF	pg/g	NV																	
2,3,7,8-TCDD	pg/g	NV																	
2,3,7,8-TCDF Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	NV 13																	
Mid Point PCDD/F TEQ (WHO 2005)	pg/g pg/g	13																	
OCDD	pg/g	NV																	
OCDF	pg/g	NV																	
Total HpCDD	pg/g	NV																	
Total HpCDD # Homologues	None	NV																	
Total HpCDF Total HpCDF # Homologues	pg/g None	NV NV																	
Total HxCDD	pg/g	NV																	
Total HxCDD # Homologues	None	NV																	
Total HxCDF	pg/g	NV																	
Total HxCDF # Homologues	None	NV																	
Total PeCDD	pg/g	NV																	
Total PeCDD # Homologues	None	NV																	
Total PeCDF Total PeCDF # Homologues	pg/g None	NV NV																	
Total TCDD	pg/g	NV																	
Total TCDD # Homologues	None	NV																	
Total TCDF	pg/g	NV																	
Total TCDF # Homologues	None	NV																	
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13																	
Inorganics	6.	0 -				0.001	4.51		4 = 4	0.555		2.55	4	4	0.551	4		4.51	4.55
Conductivity Cuanida Weak Acid Dissociable	mS/cm	0.7				0.981	1.31	1.4	1.56	0.303		2.95	1.49	1.49	0.826	1.07	1.9	1.04	1.08
Cyanide, Weak Acid Dissociable pH	ug/g pH UNITS	0.051 NV				0.05 U 8.12	0.05 U 8.28		0.05 U	0.05 U 8.12		0.05 U 7.93	0.05 U 7.51	0.05 U 7.85		0.05 U 7.52	0.05 U 7.98	0.05 U 7.95	
Sodium Absorption Ratio	SAR	5				8.27	65.9 J	16.3	16.6	9 J	14.3	94.2 J	18.1	41.2	5.01	18.6	26.7	13.2	12.7
Metals																			
Antimony	ug/g	7.5	1 U	1 U	1 U	1 U	1 U		1 U	1 U		1 U	1	1 U		1 U	1 U	1 U	
Arsenic	ug/g	18	3.5	4.2	1.7	6.6	1.2		5.2	2.2		2.4	2.4	2.4		3	1.9	2.9	
Barium	ug/g	390	38.2	42.7	18	111	8.8		90.7	21.3		29.7	65.4	37.8		28.6	23.5	110	
Beryllium	ug/g	4	0.5 U	0.5 U	0.5 U	0.98	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U		0.5 U	0.5 U	0.62	
Boron Boron (Hot Water Ext.)	ug/g	120 1.5	5.1 	5.7	5 U 	10.5 0.81	5 U 0.1 U		6.5 0.72	6.8 0.17		7.6 0.1 U	6.1 0.15	7.3 0.11		5 U 0.39	5.5 0.1 U	10.9 0.1 U	
Cadmium	ug/g ug/g	1.5	0.5 U	0.5 U	0.5 U	0.81 0.5 U	0.1 U		0.72 0.5 U	0.17 0.5 U		0.1 U	0.15 0.5 U	0.11 0.5 U		0.39 0.5 U	0.1 U	0.1 U	
Chromium	ug/g	160	11	14.1	6.6	29.3	4.9		16.8	9.8		12	21.3	14.2		15.4	8.8	24.6	

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario

		Location	ВН	210	BH211		MW100			MW101			MV	/102B			ı	MW103	
		Sample ID	BH210-3.5	BH210-6.5-7	BH211-10-12	MW100-1.25-1.5'	MW100-7.5-9.5	MW100-15-17	MW101-1.5-2'	MW101-7.5-9.5	MW101-20-20.5	MW102-20-25	MW102-7.5-9.5	MW102-12.5-14.5	5 MW102-25-26	MW103-2-2.5'	MW103-12.5-14	MW103-17.5-19.5	MW103-22.5-24.5
		Sample Date	11/21/2019	11/21/2019	11/21/2019	7/24/2019	8/22/2019	8/22/2019	7/26/2019	8/21/2019	8/21/2019	7/23/2019	8/26/2019	8/26/2019	8/26/2019	7/22/2019	8/14/2019	8/14/2019	8/14/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.99	1.98	3.05	0.41	2.29	4.57	0.46	2.29	6.1	0.51	2.29	3.81	7.62	0.56	3.81	5.33	6.86
Avalist	1114	End Depth	1.14	2.13	3.66	0.46	2.9	5.18	0.61	2.9	6.25	0.63	2.9	4.42	7.92	0.71	4.27	5.94	7.47
Analyte	Units	Table 2 SCS a															2.		
Cobalt	ug/g	140	3.7 10.4	4.6 13.8	2.1 7.4	7.1 17	1.4		4.8 21.1	3.2 9.3		4.5 10	4.5 33.1	5.4 13.4		4.6 8.7	3.4 8.4	8.6 18.8	
Copper Lead	ug/g	120	38.4	16.9	18.7	25.2	6.5		207	13.4		15.4	24.9	9.9		29.4	11.2	8.9	
Mercury	ug/g ug/g	0.27				0.117	0.005 U		0.889	0.0138		0.0151	0.0513	0.008		0.0595	0.0068	0.0122	
Methyl Mercury	mg/kg	0.0084							5E-05 U										
Molybdenum	ug/g	6.9	1 U	1 U	1 U	1 U	1 U		1 U	1 U		1 U	1 U	1 U		1 U	1 U	1 U	
Nickel	ug/g	100	9.5	11	4.7	19	3.3		9.4	7.2		9.7	11.1	11.6		8.8	6.8	19.5	
Selenium	ug/g	2.4	1 U	1 U	1 U	1 U	1 U		1 U	1 U		1 U	1 U	1 U		1 U	1 U	1 U	
Silver	ug/g	20	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.21	0.2 U		0.2 U	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	
Thallium	ug/g	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	
Uranium	ug/g	23	1 U	1 U	1 U	1 U	1 U		1 U	1 U		1 U	1 U	1 U		1 U	1 U	1 U	
Vanadium	ug/g	86	23.9	32.4	13.1	50.8	8.9		28.4	17		21.8	21.7	23.9		34.3	18.2	34.6	
Zinc	ug/g	340	120	106	83.1	155	42.1		235	94.2		60.5	129	114		70.3	69.8	49.9	
Other Coloium	ma - /1	ND/				10.4	1.03	0.03	15.0	2.75	2 / 5	2.22	0.22	2.22	20.4	0.05	10.7	10.0	120
Calcium	mg/l	NV NV				19.6 27.2	1.03 0.5 U	9.93 4.9	15.9 3.61	2.75	2.45 1.22	3.22 0.5 U	8.23 7.2	2.23 0.91	30.1 6.79	8.05 2.74	10.7 1.11	10.8	12.9 3.33
Magnesium Sodium	mg/l mg/l	NV				27.2	0.5 U 243	4.9 251	3.61 281	0.5 U 54.2	1.22	614	295	0.91 289	117	2.74	1.11 343	2.59 186	3.33 198
Polyaromatic Hydrocarbons (PAHs)	my/t	INV				Z#1	243	231	201	J4.2	110	014	275	207	117	237	343	100	170
1-Methylnaphthalene	ug/g	0.99				0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	
2-(1-)Methylnaphthalene	ug/g ug/g	0.99				0.042 U	0.042 U		0.042 U	0.042 U		0.042 U	0.042 U	0.042 U		0.042 U	0.042 U	0.042 U	
2-Methylnaphthalene	ug/g ug/g	0.99				0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	
Acenaphthene	ug/g	7.9				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Acenaphthylene	ug/g	0.15				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Anthracene	ug/g	0.67				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Benzo(a)anthracene	ug/g	0.5				0.05 U	0.05 U		0.095	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Benzo(a)pyrene	ug/g	0.3				0.05 U	0.05 U		0.093	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Benzo(b)fluoranthene	ug/g	0.78				0.05 U	0.05 U		0.153	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Benzo(g,h,i)perylene	ug/g	6.6				0.05 U	0.05 U		0.11	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Benzo(k)fluoranthene	ug/g	0.78				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Chrysene	ug/g	7				0.05 U	0.05 U		0.107	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Dibenzo(a,h)anthracene Fluoranthene	ug/g	0.1				0.05 U 0.05 U	0.05 U 0.05 U		0.05 U 0.185	0.05 U 0.05 U		0.05 U 0.05 U	0.05 U 0.05 U	0.05 U 0.05 U		0.05 U 0.05 U	0.05 U 0.05 U	0.05 U 0.05 U	
Fluorene	ug/g ug/g	62				0.05 U	0.05 U		0.185 0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Indeno(1,2,3-Cd)Pyrene	ug/g ug/g	0.38				0.05 U	0.05 U		0.084	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Naphthalene	ug/g	0.6				0.013 U	0.013 U		0.013 U	0.013 U		0.013 U	0.013 U	0.013 U		0.013 U	0.013 U	0.013 U	
Phenanthrene	ug/g	6.2				0.046 U	0.046 U		0.119	0.046 U		0.046 U	0.046 U	0.046 U		0.046 U	0.046 U	0.046 U	
Pyrene	ug/g	78				0.05 U	0.05 U		0.178	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Polychlorinated Biphenyls (PCBs)																			
Aroclor 1242	ug/g	NV																	
Aroclor 1248	ug/g	NV																	
Aroclor 1254	ug/g	NV																	
Aroclor 1260	ug/g	NV																	
PCB, Total	ug/g	0.35																	
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	/-	0.21				0.006811	0.0068 U		0.0068 U	0.0068 U		0.0068 U	0.0068 U	0.0068 U		0.0068 U	0.0068 U	0.0068 U	
Benzene Ethylbenzene	ug/g	1.1				0.0068 U 0.018 U	0.0088 U		0.0068 U	0.0088 U		0.0088 U	0.0088 U	0.008 U		0.0068 U	0.0068 U	0.0088 U	
Toluene	ug/g ug/g	2.3				0.018 U	0.018 U		0.018 U	0.018 U		0.018 U	0.018 U	0.018 U		0.018 U	0.018 U	0.018 U	
Xylene, o	ug/g ug/g	NV				0.02 U	0.03 U		0.00 U	0.03 U		0.02 U	0.02 U	0.00 U		0.02 U	0.02 U	0.02 U	
Xylenes, m & p	ug/g	NV				0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	
Xylenes, Total	ug/g	3.1				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Petroleum Hydrocarbons (PHCs)															·				
Gravimetric Heavy Hydrocarbons	ug/g	2800																	
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV				5 U	5 U		5 U	5 U		5 U	5 U	5 U		5 U	5 U	5 U	
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55				5 U	5 U		5 U	5 U		5 U	5 U	5 U		5 U	5 U	5 U	
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler		NV				10 U	10 U		10 U	10 U		10 U	10 U	10 U		10 U	10 U	10 U	
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98				10 U	10 U		10 U	10 U		10 U	10 U	10 U		10 U	10 U	10 U	
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV				50 U	50 U		50 U	50 U		50 U	50 U	50 U		50 U	50 U	50 U	
Petroleum Hydrocarbons F3 (C16-C34)	ug/g	300				50 U	50 U		50 U	50 U		50 U	50 U	50 U		50 U	50 U	50 U	
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800 NV				50 U 72 U	50 U 72 U		50 U 72 U	50 U 72 U		50 U 72 U	71 72 U	50 U 72 U		50 U 72 U	50 U 72 U	50 U 72 U	
Total Petroleum Hydrocarbons (C6 to C50) Physical/Chemistry	ug/g	NV				120	120		120	120		120	120	120		120	120	120	
Average Fraction Organic Carbon	None	NV				0.0049	0.001 U	0.001 U				0.0011	0.0013	0.001 U	0.001 U	0.0118	0.001 U	0.0034	
Clay (less than 0.005mm), USCS	%	NV											0.0013					0.0034	
Coarse Sand (2.0 to 4.75mm), USCS	%	NV																	
Fine Sand (0.074 to 0.425mm), USCS	%	NV																	
Fraction Organic Carbon	None	NV				0.0047	0.001 U	0.001 U				0.001	0.0013	0.001 U	0.001 U	0.0117	0.001 U	0.0028	
Fraction Organic Carbon (Rep1)	None	NV				0.0049						0.0011				0.0118		0.0035	
Fraction Organic Carbon (Rep2)	None	NV				0.0052										0.0119		0.0039	

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	ВН	210	BH211		MW100			MW101			MW	/102B			ı	MW103	
		Sample ID	BH210-3.5	BH210-6.5-7	BH211-10-12	MW100-1.25-1.5'	MW100-7.5-9.5	MW100-15-17	MW101-1.5-2'	MW101-7.5-9.5	MW101-20-20.5	MW102-20-25	MW102-7.5-9.5	MW102-12.5-14.5	MW102-25-26	MW103-2-2.5'	MW103-12.5-14	MW103-17.5-19.5	MW103-22.5-24.5
		Sample Date	11/21/2019	11/21/2019	11/21/2019	7/24/2019	8/22/2019	8/22/2019	7/26/2019	8/21/2019	8/21/2019	7/23/2019	8/26/2019	8/26/2019	8/26/2019	7/22/2019	8/14/2019	8/14/2019	8/14/2019
		Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.99	1.98	3.05	0.41	2.29	4.57	0.46	2.29	6.1	0.51	2.29	3.81	7.62	0.56	3.81	5.33	6.86
		End Depth	1.14	2.13	3.66	0.46	2.9	5.18	0.61	2.9	6.25	0.63	2.9	4.42	7.92	0.71	4.27	5.94	7.47
Analyte	Units	Table 2 SCS ^a																	
Gravel (4.75 to 76mm), USCS	%	NV																	
Medium Sand (0.425 to 2.0mm), USCS	%	NV																	
Moisture	%	NV				19.9	6.59		10.3	7.89		14	13	10.9		16.9	10.8	9.01	
Silt (0.005 to 0.074mm), USCS	%	NV																	
Total Organic Carbon	%	NV				0.47	0.1 U	0.1 U				0.1	0.13	0.1 U	0.1 U	1.17	0.1 U	0.28	
Total Organic Carbon (Rep1)	%	NV				0.49						0.11				1.18		0.35	
Total Organic Carbon (Rep2)	%	NV				0.52										1.19		0.39	
Volatile Organic Carbons (VOCs)																			
1,1,1,2-Tetrachloroethane	ug/g	0.058				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,1,1-Trichloroethane	ug/g	0.38				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,1,2,2-Tetrachloroethane	ug/g	0.05				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,1,2-Trichloroethane	ug/g	0.05				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,1-Dichloroethane	ug/g	0.47				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,1-Dichloroethene	ug/g	0.05				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,2-Dibromoethane	ug/g	0.05				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,2-Dichlorobenzene	ug/g	1.2				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,2-Dichloroethane	ug/g	0.05				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,2-Dichloropropane	ug/g	0.05				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,3-Dichlorobenzene	ug/g	4.8				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
1,3-Dichloropropene	ug/g	0.05				0.042 U	0.042 U		0.042 U	0.042 U		0.042 U	0.042 U	0.042 U		0.042 U	0.042 U	0.042 U	
1,4-Dichlorobenzene	ug/g	0.083				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
2-Butanone	ug/g	16				0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	
4-Methyl-2-Pentanone	ug/g	1.7				0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	
Acetone	ug/g	16				0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	
Bromodichloromethane	ug/g	1.5				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Bromoform	ug/g	0.27				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Bromomethane	ug/g	0.05				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Carbon tetrachloride	ug/g	0.05				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Chlorobenzene	ug/g	2.4				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Chlorodibromomethane	ug/g	2.3				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Chloroform	ug/g	0.05				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
cis-1,2-Dichloroethene	ug/g	1.9				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
cis-1,3-Dichloropropene	ug/g	NV				0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	
Dichlorodifluoromethane	ug/g	16				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Dichloromethane	ug/g	0.1				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Methyl tert-butyl ether (MTBE)	ug/g	0.75				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
n-Hexane	ug/g	2.8				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 UJ	0.05 UJ		0.05 U	0.05 U	0.05 U	
Styrene	ug/g	0.7				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Tetrachloroethene	ug/g	0.28				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
trans-1,2-Dichloroethene	ug/g	0.084				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
trans-1,3-Dichloropropene	ug/g	NV				0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	
Trichloroethylene	ug/g	0.061				0.01 U	0.01 U		0.01 U	0.01 U		0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	
Trichlorofluoromethane	ug/g	4				0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	
Vinyl Chloride	ug/g	0.02				0.02 U	0.02 U		0.02 U	0.02 U		0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	

^a MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment. April 15.

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram mg/L = milligram(s) per litre

mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification NV = no value available in applicable standards

-- = Analyte not analyzed

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario

		Location		B. (= : -	MW104					MW105				MW107			MW108	I
			MW104-2.5-3'		MW104-22-23								MW107-2.5-4.5					
		Sample Date	7/22/2019		8/13/2019	8/13/2019	8/13/2019		8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/19/2019	8/19/2019	8/19/2019	7/25/2019	8/16/2019	8/16/2019
		Sample Type	N	FD	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.61	2.13	6.1	2.13	4.57	4.57	1.52	3.05	4.57	6.55	0.76	2.29	4.57	1.52	3.81	5.33
		End Depth	0.91	2.74	6.71	2.74	5.18	5.18	1.83	3.66	5.18	6.71	1.37	2.9	5.03	1.83	4.42	5.79
Analyte	Units	Table 2 SCS a																
Acids, Bases, Neutrals (ABNs)					1				1						1			
1,1'-Biphenyl	ug/g	0.31	0.05 U	0.05 U		0.05 U	0.05 U											
1,2,4-Trichlorobenzene	ug/g	0.36	0.05 U	0.05 U		0.05 U	0.05 U											
2,4 & 2,6-Dinitrotoluene	ug/g	0.5	0.03 U	0.03 U		0.03 U	0.14 U											
2,4-Dimethylphenol		38	0.14 U	0.14 U		0.14 U	0.14 U											
2,4-Dinitrophenol	ug/g																	
	ug/g	2	10	10		1 U	10											
2,4-Dinitrotoluene	ug/g	0.5	0.1 U	0.1 U		0.1 U	0.1 U											
2,6-Dinitrotoluene	ug/g	0.5	0.1 U	0.1 U		0.1 U	0.1 U											
3,3'-Dichlorobenzidine	ug/g	1	0.1 U	0.1 U		0.1 U	0.1 U											
4-Chloroaniline	ug/g	0.5	0.1 U	0.1 U		0.1 U	0.1 U											
Bis (2-chloroethyl) ether	ug/g	0.5	0.1 U	0.1 U		0.1 U	0.1 U											
bis (2-Chloroisopropyl) ether	ug/g	0.67	0.1 U	0.1 U		0.1 U	0.1 U											
Bis (2-ethylhexyl) phthalate	ug/g	5	0.1 U	0.1 U		0.1 U	0.1 U											
Diethylphthalate	ug/g	0.5	0.1 U	0.1 U		0.1 U	0.1 U											
Dimethylphthalate	ug/g	0.5	0.1 U	0.1 U		0.1 U	0.1 U											
Phenol	ug/g	9.4	0.1 U	0.1 U		0.1 U	0.1 U											
Dioxins/Furans																		
1,2,3,4,6,7,8-HpCDD	pg/g	NV														0.133 J		
1,2,3,4,6,7,8-HpCDF	pg/g	NV														0.068 UJ		
1,2,3,4,7,8,9-HpCDF	pg/g	NV														0.019 U		
1,2,3,4,7,8-HxCDD	pg/g	NV														0.017 U		
1,2,3,4,7,8-HXCDF	pg/g	NV														0.021 U		
1,2,3,6,7,8-HxCDD		NV														0.023 J		
	pg/g	NV														0.023 J		
1,2,3,6,7,8-HxCDF	pg/g			_														
1,2,3,7,8,9-HxCDD	pg/g	NV														0.02 U		
1,2,3,7,8,9-HxCDF	pg/g	NV														0.025 UJ		
1,2,3,7,8-PeCDD	pg/g	NV														0.023 U		
1,2,3,7,8-PeCDF	pg/g	NV														0.023 U		
2,3,4,6,7,8-HxCDF	pg/g	NV														0.018 U		
2,3,4,7,8-PeCDF	pg/g	NV														0.018 U		
2,3,7,8-TCDD	pg/g	NV														0.022 U		
2,3,7,8-TCDF	pg/g	NV														0.021 U		
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13														0.0017		
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13														0.0387		
OCDD	pg/g	NV														1.06 J		
OCDF	pg/g	NV														0.175 UJ		
Total HpCDD	pg/g	NV														0.247		
Total HpCDD # Homologues	None	NV														2		
Total HpCDF	pg/g	NV														0.045		
Total HpCDF # Homologues	None	NV														1		
Total HxCDD	pg/g	NV														0.051		
Total HxCDD # Homologues		NV						_								1		
Total HxCDF	None	NV														-		
	pg/g	NV NV		_				_								0.025 U		
Total HxCDF # Homologues	None															0		
Total PeCDD	pg/g	NV														0.023 U		
Total PeCDD # Homologues	None	NV														0		
Total PeCDF	pg/g	NV														0.023 U		
Total PeCDF # Homologues	None	NV														0		
Total TCDD	pg/g	NV														0.022 U		
Total TCDD # Homologues	None	NV														0		
Total TCDF	pg/g	NV														0.021 U		
Total TCDF # Homologues	None	NV														0		
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13														0.0702		
Inorganics																		
Conductivity	mS/cm	0.7	0.969	0.911	1	1.13	1.11	0.841	0.52	1.27	0.859	1.01	0.376	1.71	1.35	0.0902	0.509	0.281
Cyanide, Weak Acid Dissociable	ug/g	0.051	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
pH	pH UNIT:		7.96	8.04		8.04	7.87	8.09	9.46	8.26	8.08		8.24	8.33		8.1	7.69	7.98
Sodium Absorption Ratio	SAR	5	24	60.2 J	5.77	69.3 J	10.3	60 J	29.9 J	79.8 J	40 J	23.8	11.4	25.2	19.1	0.15	2.51	2.22
Metals	5, 110	, ,		, JJ.L J		JJ.	. 3.3		_,,,,		.55	_3.0				5.15		
Antimony	ug/g	7.5	1 U	1 U		1 U	1 U	1 U	1 U	1 U	1 U		1 U	1 U		1 U	1 U	1 U
Arsenic		18	2	1.9		1.5	2.1	2.3	2.1	1.7	2.2		3	1.4		2.1	1.7	2
	ug/g																	
Barium	ug/g	390	18.7	24.5 J		14.6 J	67.1	45.6	11.8	16.2	42.1		15.2	11.3		11.2	36.6	57.2
Beryllium	ug/g	4	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U
Boron	ug/g	120	5 U	5.5		5 U	7.6	7.4	5.6	5.5	7		6.4	5 U		5 U	6.6	8.8
Boron (Hot Water Ext.)	ug/g	1.5	0.1 U	0.1 U		0.1 U	0.1 U	0.13	0.12	0.1 U	0.13		0.1 U	0.1 U		0.1 U	0.17	0.13
Cadmium	ug/g	1.2	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U
Chromium	ug/g	160	9	9.6		8.2	18.6	16.1	6.1	7.5	15.4		12.9	6.2		5.8	12.1	18.4
Chromium, Hexavalent (Cr6+)	ug/g	8	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.54	0.2 U		0.2 U	0.2 U	0.26

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario

Guelph, Ontario		Location			MW104					MW105				MW107			MW108	
			MW104-2.5-3'	DUP13	MW104 MW104-22-23	MW104-7-9	MW104-15-17	DUP12	MW105-5-6			MW105-21 5-22	MW107-2 5-4 5		MW107-15-16 5	MW108-5-6'	MW108 MW108-12.5-14.5	MW108-17 5-19
		Sample Date		8/13/2019	8/13/2019	8/13/2019	8/13/2019		8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/19/2019	8/19/2019	8/19/2019	7/25/2019	8/16/2019	8/16/2019
		Sample Type	N	FD	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.61	2.13	6.1	2.13	4.57	4.57	1.52	3.05	4.57	6.55	0.76	2.29	4.57	1.52	3.81	5.33
		End Depth	0.91	2.74	6.71	2.74	5.18	5.18	1.83	3.66	5.18	6.71	1.37	2.9	5.03	1.83	4.42	5.79
Analyte	Units	Table 2 SCS ^a																
Cobalt	ug/g	22	3.6	3.7 8		2.7	6.6	6.2	10.3	2.5 7	5.9 12.3		2.9	1.8		2.2	3.9	6.2 14.3
Copper Lead	ug/g ug/g	140 120	9.4	9.5		6.4	14.3 7.5	13.1	34.6	10.1	9		14.9 16	8.7 9.5		9.4	10.2 10.1	12.9
Mercury	ug/g ug/g	0.27	0.0061	0.0058		0.006	0.011	0.0099	0.0082	0.005 U	0.009		0.0148	0.005 U		0.005 U	0.0099	0.0123
Methyl Mercury	mg/kg	0.0084																
Molybdenum	ug/g	6.9	1 U	1 U		1 U	1 U	1 U	1 U	1 U	1 U		1 U	1 U		1 U	1 U	1 U
Nickel	ug/g	100	7	7.9		5.3	14.8	14.1	5	5.3	12.9		6.6	3.8		4.6	8.6	14.2
Selenium	ug/g	2.4	1 U	1 U		1 U	1 U	1 U	1 U	1 U	1 U		1 U	1 U		1 U	1 U	1 U
Silver	ug/g	20	0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U		0.2 U	0.2 U	0.2 U
Thallium	ug/g	1	0.5 U	0.5 U		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U
Uranium	ug/g	23	1 U	1 U		1 U	10	10	1 U	1 U	1 U		10	10		1 U	1 U	1 U
Vanadium Zinc	ug/g	86 340	17.8 55.1	16.1 64.5		16.2 41.4	27.6 64	24.8 51.9	12.4 216	14.1 78.2	24.1 50.7		19.2 66	11.8 88.3		14.5 65.9	20.5 55.4	27.8 81
Other	ug/g	340	55.1	64.5		41.4	64	51.9	216	76.2	50.7		00	88.3		65.9	55.4	01
Calcium	mg/l	NV	1.47	0.74	28.1	0.73	19.4	0.66	0.75	0.68	0.5 U	3.16	1.63	8.04	8.06	7.84	15.7	5.43
Magnesium	mg/l	NV	1.93	0.74 0.5 U	9.26	0.7 J	3.97	0.5 U	0.7 J	0.5 U	0.5 U	0.9	0.98	1.71	2.64	2.49	6.33	2.01
Sodium	mg/l	NV	188	188	138	215	191	177	94.1	239	168	186	74.4	302	245	1.93	46.6	23.8
Polyaromatic Hydrocarbons (PAHs)	J.							-										
1-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U	0.03 U
2-(1-)Methylnaphthalene	ug/g	0.99	0.042 U	0.042 U		0.042 U	0.042 U	0.042 U	0.042 U	0.042 U	0.042 U		0.042 U	0.042 U		0.042 U	0.042 U	0.042 U
2-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U		0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U		0.03 U	0.03 U		0.03 U	0.03 U	0.03 U
Acenaphthene	ug/g	7.9	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Acenaphthylene	ug/g	0.15	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.054	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Anthracene	ug/g	0.67	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Benzo(a)anthracene	ug/g	0.5	0.05 U 0.05 U	0.05 U 0.05 U		0.05 U 0.05 U	0.05 U 0.05 U	0.05 U 0.05 U	0.086 J 0.143	0.05 U 0.05 U	0.05 U 0.05 U		0.05 U 0.05 U	0.05 U 0.05 U		0.05 U 0.05 U	0.05 U 0.05 U	0.05 U 0.05 U
Benzo(a)pyrene Benzo(b)fluoranthene	ug/g ug/g	0.78	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.143	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Benzo(g,h,i)perylene	ug/g	6.6	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.162	0.05 U	0.05 U		0.067	0.05 U		0.05 U	0.05 U	0.05 U
Benzo(k)fluoranthene	ug/g	0.78	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Chrysene	ug/g	7	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.09	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Dibenzo(a,h)anthracene	ug/g	0.1	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Fluoranthene	ug/g	0.69	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.125	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Fluorene	ug/g	62	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Indeno(1,2,3-Cd)Pyrene	ug/g	0.38	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.133	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Naphthalene	ug/g	0.6	0.013 U	0.013 U		0.013 U	0.013 U	0.013 U	0.013 U	0.013 U	0.013 U		0.013 U	0.013 U		0.013 U	0.013 U	0.013 U
Phenanthrene Pyrene	ug/g	6.2 78	0.046 U 0.05 U	0.046 U 0.05 U		0.046 U 0.05 U	0.046 U 0.05 U	0.046 U 0.05 U	0.063 0.118	0.046 U 0.05 U	0.046 U 0.05 U		0.046 U 0.05 U	0.046 U 0.05 U		0.046 U 0.05 U	0.046 U 0.05 U	0.046 U 0.05 U
Polychlorinated Biphenyls (PCBs)	ug/g	76	0.05 0	0.05 0		0.05 0	0.05 0	0.05 0	0.116	0.05 0	0.05 0		0.05 0	0.05 0		0.05 0	0.05 0	0.05 0
Aroclor 1242	ug/g	NV																
Aroclor 1248	ug/g	NV																
Aroclor 1254	ug/g	NV																
Aroclor 1260	ug/g	NV																
PCB, Total	ug/g	0.35																
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)																		
Benzene	ug/g	0.21	0.0068 U			0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U	0.0068 U		0.0068 U	0.0068 U		0.0068 U	0.0068 U	0.0068 U
Ethylbenzene	ug/g	1.1	0.018 U			0.018 U	0.018 U	0.018 U	0.018 U	0.018 U	0.018 U		0.018 U	0.018 U		0.018 U	0.018 U	0.018 U
Toluene Xylene, o	ug/g ug/g	2.3 NV	0.08 U 0.02 U			0.08 U 0.02 U	0.08 U 0.02 U	0.08 U 0.02 U	0.08 U 0.02 U	0.08 U 0.02 U	0.08 U 0.02 U		0.08 U 0.02 U	0.08 U 0.02 U		0.08 U 0.02 U	0.08 U 0.02 U	0.08 U 0.02 U
Xylenes, m & p	ug/g ug/g	NV	0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U		0.02 U	0.02 U	0.02 U
Xylenes, Total	ug/g	3.1	0.05 U			0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U
Petroleum Hydrocarbons (PHCs)																		
Gravimetric Heavy Hydrocarbons	ug/g	2800							610				2110					
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	5 U			5 U	5 U	5 U	5 U	5 U	5 U		5 U	5 U		5 U	5 U	5 U
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U			5 U	5 U	5 U	5 U	5 U	5 U		5 UJ	5 UJ		5 U	5 U	5 U
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler		NV	10 U			10 U	10 U	10 U	10 U	10 U	10 U		20 U	10 U		10 U	10 U	10 U
Petroleum Hydrocarbons F2 (C10-C16)	ug/g	98	10 U			10 U	10 U	10 U	10 U	10 U	10 U		20 U	10 U		10 U	10 U	10 U
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g	NV	50 U			50 U	50 U	50 U	123	50 U	50 U		300	50 U		50 U	50 U	50 U
Petroleum Hydrocarbons F3 (C16-C34) Petroleum Hydrocarbons F4 (C34-C50)	ug/g	300 2800	50 U 50 U			50 U 50 U	50 U 50 U	50 U	124 250	50 U 50 U	50 U		300 800	50 U 50 U		50 U	50 U 50 U	50 U
Total Petroleum Hydrocarbons (C6 to C50)	ug/g ug/g	2800 NV	72 U			72 U	72 U	72 U	374	72 U	72 U		1090	72 U		72 U	72 U	72 U
Physical/Chemistry	ug/g	140	120		1	120	120	120	J. T	120	120	1	1070	120	1	120	120	120
Average Fraction Organic Carbon	None	NV														0.001 U	0.001 U	0.0019
Clay (less than 0.005mm), USCS	%	NV																
Coarse Sand (2.0 to 4.75mm), USCS	%	NV																
Fine Sand (0.074 to 0.425mm), USCS	%	NV																
Fraction Organic Carbon	None	NV														0.001 U	0.001 U	0.0018
Fraction Organic Carbon (Rep1)	None	NV																0.0019
Fraction Organic Carbon (Rep2)	None	NV																0.002

Table 6-5. Summary of Analytical Results in Soil

Guelph, Ontario

		Location			MW104					MW105				MW107			MW108	
			MW104-2.5-3'		MW104-22-23												MW108-12.5-14.5	
		Sample Date	7/22/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/13/2019	8/19/2019	8/19/2019	8/19/2019	7/25/2019	8/16/2019	8/16/2019
		Sample Type	N	FD	N	N	N	FD	N	N	N	N	N	N	N	N	N	N
		Start Depth	0.61	2.13	6.1	2.13	4.57	4.57	1.52	3.05	4.57	6.55	0.76	2.29	4.57	1.52	3.81	5.33
		End Depth	0.91	2.74	6.71	2.74	5.18	5.18	1.83	3.66	5.18	6.71	1.37	2.9	5.03	1.83	4.42	5.79
Analyte	Units	Table 2 SCS ^a																
Gravel (4.75 to 76mm), USCS	%	NV																
Medium Sand (0.425 to 2.0mm), USCS	%	NV																
Moisture	%	NV	8.51	7.19		8.77	8.62	8.54	3.46	7.46	9.3		6.31	6.96		4.2	11.4	8.1
Silt (0.005 to 0.074mm), USCS	%	NV																
Total Organic Carbon	%	NV														0.1 U	0.1 U	0.18
Total Organic Carbon (Rep1)	%	NV																0.19
Total Organic Carbon (Rep2)	%	NV																0.2
Volatile Organic Carbons (VOCs)																		
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,1,1-Trichloroethane	ug/g	0.38	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,1,2-Trichloroethane	ug/g	0.05	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,1-Dichloroethane	ug/g	0.47	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,1-Dichloroethene	ug/g	0.05	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,2-Dibromoethane	ug/g	0.05	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,2-Dichlorobenzene	ug/g	1.2	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,2-Dichloroethane	ug/g	0.05	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,2-Dichloropropane	ug/g	0.05	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,3-Dichlorobenzene	ug/g	4.8	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
1,3-Dichloropropene	ug/g	0.05	0.042 U			0.042 U		0.042 U	0.042 U		0.042 U	0.042 U	0.042 U					
1,4-Dichlorobenzene	ug/g	0.083	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
2-Butanone	ug/g	16	0.5 U			0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U					
4-Methyl-2-Pentanone	ug/g	1.7	0.5 U			0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U					
Acetone	ug/g	16	0.5 U			0.5 U		0.5 U	0.5 U		0.5 U	0.5 U	0.5 U					
Bromodichloromethane	ug/g	1.5	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Bromoform	ug/g	0.27	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Bromomethane	ug/g	0.05	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Carbon tetrachloride	ug/g	0.05	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Chlorobenzene	ug/g	2.4	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Chlorodibromomethane	ug/g	2.3	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Chloroform	ug/g	0.05	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
cis-1,2-Dichloroethene	ug/g	1.9	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
cis-1,3-Dichloropropene	ug/g	NV	0.03 U			0.03 U		0.03 U	0.03 U		0.03 U	0.03 U	0.03 U					
Dichlorodifluoromethane	ug/g	16	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Dichloromethane	ug/g	0.1	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
n-Hexane	ug/g	2.8	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Styrene	ug/g	0.7	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Tetrachloroethene	ug/g	0.28	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
trans-1,2-Dichloroethene	ug/g	0.084	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
trans-1,3-Dichloropropene	ug/g	NV	0.03 U			0.03 U		0.03 U	0.03 U		0.03 U	0.03 U	0.03 U					
Trichloroethylene	ug/g	0.061	0.01 U			0.01 U		0.01 U	0.01 U		0.01 U	0.01 U	0.01 U					
Trichlorofluoromethane	ug/g	4	0.05 U			0.05 U		0.05 U	0.05 U		0.05 U	0.05 U	0.05 U					
Vinyl Chloride	ug/g	0.02	0.02 U			0.02 U		0.02 U	0.02 U		0.02 U	0.02 U	0.02 U					

^a MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment. April 15.

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram

mg/L = milligram(s) per litre mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification

NV = no value available in applicable standards

-- = Analyte not analyzed

Table 6-5. Summary of Analytical Results in Soil

Guelph, Ontario

		Location	141466 2 - 2 -	Duna:	MW109	MM400 40 = · · · =	1404400		1113
			MW109-2.5-3.5'	DUP14		MW109-12.5-14.5			
		Sample Date	7/25/2019	8/15/2019		8/15/2019	8/15/2019	4/9/2020	4/9/2020
		Sample Type	N	FD	N	N	N	N	N
		Start Depth	0.76	3.81	2.29	3.81	4.88	0.76	1.98
		End Depth	1.07	4.42	2.9	4.42	5.18	1.37	2.59
Analyte	Units	Table 2 SCS ^a							
Acids, Bases, Neutrals (ABNs)									
1,1'-Biphenyl	ug/g	0.31							
1,2,4-Trichlorobenzene	ug/g	0.36							
2,4 & 2,6-Dinitrotoluene	ug/g	0.5							
2,4-Dimethylphenol	ug/g	38							
2,4-Dinitrophenol	ug/g	2							
2,4-Dinitrotoluene	ug/g	0.5							
2,6-Dinitrotoluene	ug/g	0.5							
3,3'-Dichlorobenzidine	ug/g	1							
4-Chloroaniline	ug/g	0.5							
Bis (2-chloroethyl) ether	ug/g	0.5							
bis (2-Chloroisopropyl) ether	ug/g	0.67							
Bis (2-ethylhexyl) phthalate	ug/g	5							
Diethylphthalate	ug/g	0.5							
Dimethylphthalate	ug/g	0.5							
Phenol	ug/g	9.4							
Dioxins/Furans									
1,2,3,4,6,7,8-HpCDD	pg/g	NV	0.808 J						
1,2,3,4,6,7,8-HpCDF	pg/g	NV	0.29 J						
1,2,3,4,7,8,9-HpCDF	pg/g	NV	0.02 U						
1,2,3,4,7,8-HxCDD	pg/g	NV	0.027 U						
1,2,3,4,7,8-HxCDF	pg/g	NV	0.027 U						
1,2,3,6,7,8-HxCDD	pg/g	NV	0.04 J						
1,2,3,6,7,8-HxCDF	pg/g	NV	0.027 U						
1,2,3,7,8,9-HxCDD	pg/g	NV	0.026 U						
1,2,3,7,8,9-HxCDF	pg/g	NV	0.036 U						
1,2,3,7,8-PeCDD	pg/g	NV	0.017 U						
1,2,3,7,8-PeCDF	pg/g	NV	0.024 U						
2,3,4,6,7,8-HxCDF	pg/g	NV	0.026 U						
2,3,4,7,8-PeCDF	pg/g	NV	0.024 J						
2,3,7,8-TCDD	pg/g	NV	0.025 U						
2,3,7,8-TCDF	pg/g	NV	0.024 U						
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	13	0.0146						
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	13	0.0558						
OCDD	pg/g	NV	7.3						
OCDF	pg/g	NV	0.862 J						
Total HpCDD	pg/g	NV	1.48						
Total HpCDD # Homologues	None	NV	2						
Total HpCDF		NV	0.622						
Total HpCDF # Homologues	pg/g None	NV	1						
Total HxCDD		NV	0.111						
	pg/g	NV	2						
Total HxCDD # Homologues Total HxCDF	None	NV	0.124						
	pg/g		0.124						
Total HxCDF # Homologues	None	NV	-						
Total PeCDD	pg/g	NV NV	0.017 U						
Total PeCDD # Homologues	None	NV	0						
Total PeCDF	pg/g	NV NV	0.04						
Total PeCDF # Homologues	None	NV	1						
Total TCDD	pg/g	NV NV	0.058						
Total TCDD # Homologues	None	NV NV	1						
Total TCDF	pg/g	NV	0.024 U						
Total TCDF # Homologues	None	NV	0						
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	13	0.0869						
Inorganics							1		
Conductivity	mS/cm	0.7	0.208	0.177	0.394	0.167		1.66	1.87
Cyanide, Weak Acid Dissociable	ug/g	0.051	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
pH	pH UNITS	NV	7.83	8	7.96	7.98		7.93	8.13
Sodium Absorption Ratio	SAR	5	8.8	5.29	16.5 J	5.24	5.23	45.6	108 J
Metals						I	ı		ı
Antimony	ug/g	7.5	1 U	1 U	1 U	1 U		1 U	1 U
Arsenic	ug/g	18	1.2	2.3	2.2	2.4		3.4	2.8
Barium	ug/g	390	12.8	41	34.1	48.4		34.7	21.1
Beryllium	ug/g	4	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U
Boron	ug/g	120	5 U	6.8	6.3	6.3		5 U	6.2
Boron (Hot Water Ext.)	ug/g	1.5	0.1 U	0.1 U	0.12	0.1 U		0.19	0.1 U
Cadmium	ug/g	1.2	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U
Chromium	ug/g	160	5.8	13.7	12.8	14.3		16.2	11.5
Chromium, Hexavalent (Cr6+)	ug/g	8	0.2 U	0.2 U	0.2 U	0.2 U		0.31	0.44

Table 6-5. Summary of Analytical Results in Soil

Guelph, Ontario

		Location Sample ID	MW109-2.5-3.5'	DUP14	MW109 MW109-8-9.5	MW109-12.5-14.5	MW109-16-17	MW113-2.5-4.5	
		Sample Date	7/25/2019	8/15/2019	8/15/2019	8/15/2019	8/15/2019	4/9/2020	4/9/2020
		Sample Type	N	FD	N	N	N	N	N
		Start Depth	0.76	3.81	2.29	3.81	4.88	0.76	1.98
		End Depth	1.07	4.42	2.9	4.42	5.18	1.37	2.59
Analyte	Units	Table 2 SCS a	1.07	4.42	2.7	4,42	5.18	1.57	2.37
Analyte									
Cobalt	ug/g	22	1.6	5.8	5.1	6.2		4	3.8
Copper	ug/g	140	4	12	12	12.9		16.1	10.4
Lead	ug/g	120	5.9	11.2	13	14.5		41.6	16.6
Mercury	ug/g	0.27	0.0071	0.0104	0.0132	0.0111		0.0623	0.005 U
Methyl Mercury	mg/kg	0.0084							
Molybdenum	ug/g	6.9	1 U	1 U	1 U	1 U		1 U	1 U
Nickel	ug/g	100	3.8	11.8	10.8	13		8.3	8.2
Selenium	ug/g	2.4	1 U	1 U	1 U	1 U		1 U	1 U
Silver	ug/g	20	0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	0.2 U
Thallium	ug/g	1	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U
Uranium	ug/g	23	1 U	1 U	1 U	1 U		1 U	1 U
Vanadium	ug/g	86	10.6	22.4	21.7	23		24.7	17.7
Zinc	ug/g	340	26.6	57.1	87	64.7		108	94.9
Other									
Calcium	mg/l	NV	1.39	2.8	2.16	2.64	1.67	2.84	0.79
Magnesium	mg/l	NV	0.57	0.97	0.5 U	0.92	0.72	0.5	0.5 U
Sodium	mg/l	NV	48.8	40.3	88.1	38.8	32.1	317	349
Polyaromatic Hydrocarbons (PAHs)	٠,٠								
1-Methylnaphthalene	ug/g	0.99	0.03 U	0.03 U	0.03 U	0.03 U		0.03 U	0.03 U
2-(1-)Methylnaphthalene	ug/g	0.99	0.042 U	0.042 U	0.042 U	0.042 U		0.042 U	0.042 U
2-Methylnaphthalene	ug/g ug/g	0.99	0.042 U	0.042 U	0.042 U	0.042 U		0.042 U	0.042 U
Acenaphthene		7.9	0.03 U	0.03 U	0.03 U	0.05 U		0.03 U	0.03 U
Acenaphthylene	ug/g	0.15	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
• •	ug/g								
Anthracene	ug/g	0.67	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Benzo(a)anthracene	ug/g	0.5	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Benzo(a)pyrene	ug/g	0.3	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Benzo(b)fluoranthene	ug/g	0.78	0.05 U	0.05 U	0.05 U	0.05 U		0.055	0.05 U
Benzo(g,h,i)perylene	ug/g	6.6	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Benzo(k)fluoranthene	ug/g	0.78	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Chrysene	ug/g	7	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Dibenzo(a,h)anthracene	ug/g	0.1	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Fluoranthene	ug/g	0.69	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Fluorene	ug/g	62	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Indeno(1,2,3-Cd)Pyrene	ug/g	0.38	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Naphthalene	ug/g	0.6	0.013 U	0.013 U	0.013 U	0.013 U		0.013 U	0.013 U
Phenanthrene	ug/g	6.2	0.046 U	0.046 U	0.046 U	0.046 U		0.046 U	0.046 U
Pyrene	ug/g	78	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Polychlorinated Biphenyls (PCBs)	wg/ g		0.05 0	0.05 0	0.000	0.05 0		0.05 0	0.00
Aroclor 1242	ug/g	NV							
Aroclor 1242 Aroclor 1248		NV							
	ug/g								
Aroclor 1254	ug/g	NV							
Aroclor 1260	ug/g	NV							
PCB, Total	ug/g	0.35							
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)						I			
Benzene	ug/g	0.21	0.0068 U	0.0068 U	0.0068 U	0.0068 U		0.0068 U	0.0068 U
Ethylbenzene	ug/g	1.1	0.018 U	0.018 U	0.018 U	0.018 U		0.018 U	0.018 U
Toluene	ug/g	2.3	0.08 U	0.08 U	0.08 U	0.08 U		0.08 U	0.08 U
Xylene, o	ug/g	NV	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U
Xylenes, m & p	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U		0.03 U	0.03 U
Xylenes, Total	ug/g	3.1	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Petroleum Hydrocarbons (PHCs)									
Gravimetric Heavy Hydrocarbons	ug/g	2800						550	
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/g	NV	5 U	5 U	5 U	5 U		5 U	5 U
Petroleum Hydrocarbons F1 (C6-C10)	ug/g	55	5 U	5 U	5 U	5 U		5 U	5 U
Petroleum Hydrocarbons F2 (C10-C16 less Naphthaler	ug/g ug/g	NV	10 U	10 U	10 U	10 U		10 U	10 U
Petroleum Hydrocarbons F2 (C10-C16)	ug/g ug/g	98	10 U	10 U	10 U	10 U		10 U	10 U
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/g ug/g	NV	50 U	50 U	50 U	50 U		54	50 U
• • • • • • • • • • • • • • • • • • • •		300	50 U		50 U	50 U			50 U
Petroleum Hydrocarbons F3 (C16-C34)	ug/g			50 U				54	
Petroleum Hydrocarbons F4 (C34-C50)	ug/g	2800	50 U	50 U	50 U	50 U		181	50 U
Total Petroleum Hydrocarbons (C6 to C50)	ug/g	NV	72 U	72 U	72 U	72 U		235	72 U
Physical/Chemistry						:			
Average Fraction Organic Carbon	None	NV			0.001 U	0.001 U	0.001 U		
Clay (less than 0.005mm), USCS	%	NV							
Coarse Sand (2.0 to 4.75mm), USCS	%	NV							
Fine Sand (0.074 to 0.425mm), USCS	%	NV							
Fraction Organic Carbon	None	NV			0.001 U	0.001 U	0.001 U		
Fraction Organic Carbon (Rep1)	None	NV				0.001			
Fraction Organic Carbon (Rep2)	None	NV							

Table 6-5. Summary of Analytical Results in Soil

Guelph, Ontario

Guelph, Ontario		Location			MW109			AAIA	/113
			MW109-2.5-3.5'	DUP14		MW109-12.5-14.5	MW100 14 17		
		Sample Date	7/25/2019	8/15/2019	8/15/2019	8/15/2019	8/15/2019	4/9/2020	4/9/2020
		Sample Type	7/25/2019 N	6/ 13/ 20 19 FD	8/13/2019 N	8/15/2019 N	8/15/2019 N	4/9/2020 N	4/9/2020 N
		Start Depth	0.76	3.81	2.29	3.81	4.88	0.76	1.98
		End Depth	1.07	4.42	2.9	4.42	5.18	1.37	2.59
Analyte	Units	Table 2 SCS a		=			56		2.07
Gravel (4.75 to 76mm), USCS	%	NV							
Medium Sand (0.425 to 2.0mm), USCS	%	NV							
Moisture	%	NV	6.56	10.7	8.42	9.71		8.79	5.03
Silt (0.005 to 0.074mm), USCS	%	NV							
Total Organic Carbon	%	NV			0.1 U	0.1 U	0.1 U		
Total Organic Carbon (Rep1)	%	NV				0.1			
Total Organic Carbon (Rep2)	%	NV							
Volatile Organic Carbons (VOCs)									
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,1,1-Trichloroethane	ug/g	0.38	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,1,2-Trichloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,1-Dichloroethane	ug/g	0.47	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,1-Dichloroethene	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,2-Dibromoethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,2-Dichlorobenzene	ug/g	1.2	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,2-Dichloroethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,2-Dichloropropane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,3-Dichlorobenzene	ug/g	4.8	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
1,3-Dichloropropene	ug/g	0.05	0.042 U	0.042 U	0.042 U	0.042 U		0.042 U	0.042 U
1,4-Dichlorobenzene	ug/g	0.083	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
2-Butanone	ug/g	16	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U
4-Methyl-2-Pentanone	ug/g	1.7	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U
Acetone	ug/g	16	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	0.5 U
Bromodichloromethane	ug/g	1.5	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Bromoform	ug/g	0.27	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Bromomethane	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Carbon tetrachloride	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Chlorobenzene	ug/g	2.4	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Chlorodibromomethane	ug/g	2.3	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Chloroform	ug/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
cis-1,2-Dichloroethene	ug/g	1.9	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
cis-1,3-Dichloropropene	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U		0.03 U	0.03 U
Dichlorodifluoromethane	ug/g	16	0.05 U	0.05 U	0.05 U	0.05 U		0.05 UJ	0.05 UJ
Dichloromethane	ug/g	0.1	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Methyl tert-butyl ether (MTBE)	ug/g	0.75	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
n-Hexane	ug/g	2.8	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Styrene	ug/g	0.7	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Tetrachloroethene	ug/g	0.28	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
trans-1,2-Dichloroethene	ug/g	0.084	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
trans-1,3-Dichloropropene	ug/g	NV	0.03 U	0.03 U	0.03 U	0.03 U		0.03 U	0.03 U
Trichloroethylene	ug/g	0.061	0.01 U	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U
Trichlorofluoromethane	ug/g	4	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U
Vinyl Chloride	ug/g	0.02	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U

^a MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment. April 15.

Bold denote positive detection at or above reportable detection limit

Shading denotes detected results that exceeds the applicable standard

U = Analyte not detected

ug/L = microgram(s) per litre

ug/g = microgram per gram mg/L = milligram(s) per litre

mS/cm = millisiemen per centimeter

SAR = Sodiuim Absorption Ratio

ID = identification

NV = no value available in applicable standards

-- = Analyte not analyzed

Table 6-6. Maximum Detected Concentrations in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Analyte Group	Analyte Name	Maximum Detected Concentration	Unit	Location	Sample Name	Sample Type	Sample Date	Start Depth (mbgs)	End Depth (mbgs)	SDG
BTEX	Toluene	0.003	ug/g	BH-03	BH-3 (SS2)-0.8-1.4	N	11/27/2008	0.8	1.4	L713254
Dioxins/Furans	Mid Point PCDD/F TEQ (WHO 2005)	0.0558	pg/g	MW109	MW109-2.5-3.5'	N	7/25/2019	0.76	1.07	L2318180
Inorganics	Conductivity	2.95	mS/cm	MW102B	MW102-20-25	N	7/23/2019	0.51	0.63	L2318180
Inorganics	pH	9.46	pH UNITS	MW105	MW105-5-6	N	8/13/2019	1.52	1.83	L2328062
Inorganics	Sodium Absorption Ratio	108	SAR	MW113	MW113-6.5-8.5	N	4/9/2020	1.98	2.59	L2436005
Metals	Antimony	1	ug/g	MW102B	MW102-7.5-9.5	N	8/26/2019	2.29	2.9	L2336718
Metals	Arsenic	6.6	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Barium	111	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Beryllium	0.98	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Boron	10.9	ug/g	MW103	MW103-17.5-19.5	N	8/14/2019	5.33	5.94	L2330748
Metals	Boron (Hot Water Ext.)	0.81	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Chromium	29.3	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Chromium, Hexavalent (Cr6+)	1.04	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Cobalt	8.6	ug/g	MW103	MW103-17.5-19.5	N	8/14/2019	5.33	5.94	L2330748
Metals	Copper	33.1	ug/g	MW102B	MW102-7.5-9.5	N	8/26/2019	2.29	2.9	L2336718
Metals	Lead	207	ug/g	MW101	MW101-1.5-2'	N	7/26/2019	0.46	0.61	L2318180
Metals	Mercury	0.889	ug/g	MW101	MW101-1.5-2'	N	7/26/2019	0.46	0.61	L2318180
Metals	Nickel	19.5	ug/g	MW103	MW103-17.5-19.5	N	8/14/2019	5.33	5.94	L2330748
Metals	Silver	0.21	ug/g	MW101	MW101-1.5-2'	N	7/26/2019	0.46	0.61	L2318180
Metals	Thallium	1	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
Metals	Vanadium	50.8	ug/g	MW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	L2318180
Metals	Zinc	246	ug/g	BH201	BH201-1-1.5'	N	7/24/2019	0.3	0.46	L2318180
PAHs	2-(1-)Methylnaphthalene	0.067	ug/g	BH208	BH208-3-3.5	N	11/12/2019	0.91	1.07	L2381422
PAHs	Acenaphthylene	0.054	ug/g	MW105	MW105-5-6	N	8/13/2019	1.52	1.83	L2328062
PAHs	Benzo(a)anthracene	0.14	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Benzo(a)pyrene	0.24	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Benzo(b)fluoranthene	0.18	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Benzo(g,h,i)perylene	0.237	ug/g	BH208	BH208-3-3.5	N	11/12/2019	0.91	1.07	L2381422
PAHs	Benzo(k)fluoranthene	0.11	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Chrysene	0.18	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Dibenzo(a,h)anthracene	0.09	ug/g	BH-14/ BH208	BH-14 (SS2)-0.8-1.4 / BH208-3-3.5	N	11/25/2008 / 11/12/2019	0.8	1.4	L712303 / L2381422
PAHs	Fluoranthene	0.19	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Indeno(1,2,3-Cd)Pyrene	0.14	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303
PAHs	Naphthalene	0.039	ug/g	BH208	BH208-3-3.5	N	11/12/2019	0.91	1.07	L2381422
PAHs	Phenanthrene	0.123	ug/g	BH205	BH205-2.5-4.5	N	8/12/2019	0.76	1.37	L2328062
PAHs	Pyrene	0.178	ug/g	MW101	MW101-1.5-2'	N	7/26/2019	0.46	0.61	L2318180
PHCs	Petroleum Hydrocarbons F3 (C16-C34)	300	ug/g	MW107	MW107-2.5-4.5	N	8/19/2019	0.76	1.37	L2333129
PHCs	Petroleum Hydrocarbons F4 (C34-C50)	2110	ug/g	BH-15-MW3	BH-15 (SS1)-0-0.6	N	11/26/2008	0	0.6	L712303
VOCs	Trichloroethylene	0.004	ug/g	BH-14	BH-14 (SS2)-0.8-1.4	N	11/25/2008	0.8	1.4	L712303

Notes:

μg/g = microgram per gram

ABN - acid, base, and neutral compounds

BTEX = benzene, toluene, ethylbenzene, and xylenes

F = fraction

FD = field duplicate

mbgs = metres below ground surface mS/cm = milliSiemens per centimetre N = normal sample

ORP = other regulated parameters

PAH = polycyclic aromatic hydrocarbons

PCB = polychlorinated biphenyls

pg/g = picogram per gram

PHC = petroleum hydrocarbons

SAR = sodium adsorption ratio SDG = sample delivery group

VOC = volatile organic compounds

Table 6-7a. Preliminary COC Screening in SoilPhase Two Environmental Site Assesment, 55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

								Minimum			No. of	No. of	No. of	No. of	
				Max		Maximum		Detection			Detects	Nondetects	Detects with	Nondetects	
	Parameter	No. of	No. of	Detected	Max Nondetect	Measured		Limit	Applicable SCS		Exceeding	exceeding	no Table 2		Retained as a Contaminant for Phase Two ESA?
Contaminant ^a	Group	Stations	Samples		Concentration	Concentration b.	Units	(MDL)	c.	Other Criteria d	Table 2 SCS	Table 2 SCS	SCS	2 SCS	(Rationale)
Lead	Metal	34	68	207		207	μg/g	1	120		2		0		Yes, included (Max > Table 2 SCS)
Mercury	Metal	32	65	0.889	0.05	0.889	μg/g	0.005	0.27		1		0		Yes, included (Max > Table 2 SCS)
1,1'-Biphenyl	ABN	1	4		0.05	0.05	μg/g	0.05	0.31		0	0	0		No, excluded (Max < or = Table 2 SCS)
1,2,4-Trichlorobenzene	ABN	1	4		0.05	0.05	μg/g	0.05	0.36		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
2,4 & 2,6-Dinitrotoluene	ABN	1	4		0.14	0.14	μg/g	0.141	0.5		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
2,4-Dimethylphenol	ABN	1	4		0.1	0.1	μg/g	0.1	38		0	0	0		No, excluded (Max < or = Table 2 SCS)
2,4-Dinitrophenol	ABN	1	4		1	1	μg/g	1	2		0	0	0		No, excluded (Max < or = Table 2 SCS)
3,3'-Dichlorobenzidine	ABN	1	4		0.1	0.1	μg/g	0.1	1		0	0	0		No, excluded (Max < or = Table 2 SCS)
4-Chloroaniline	ABN	1	4		0.1	0.1	μg/g	0.1	0.5		0	0	0		No, excluded (Max < or = Table 2 SCS)
Bis (2-chloroethyl) ether	ABN	1	4		0.1	0.1	μg/g	0.1	0.5		0	0	0		No, excluded (Max < or = Table 2 SCS)
Bis (2-Chloroisopropyl) ether	ABN	1	4		0.1	0.1	μg/g	0.1	0.67		0	0	0		No, excluded (Max < or = Table 2 SCS)
Bis (2-ethylhexyl) phthalate	ABN	1	4		0.1	0.1	μg/g	0.1	5		0	0	0		No, excluded (Max < or = Table 2 SCS)
Diethylphthalate	ABN	1	4		0.1	0.1	μg/g	0.1	0.5		0	0	0		No, excluded (Max < or = Table 2 SCS)
Dimethylphthalate	ABN	1	4		0.1	0.1	μg/g	0.1	0.5		0	0	0		No, excluded (Max < or = Table 2 SCS)
Phenol	ABN	1	4		0.1	0.1	μg/g	0.1	9.4		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzene	BTEX	20	53		0.0068	0.0068	μg/g	0.002	0.21		0	0	0		No, excluded (Max < or = Table 2 SCS)
Ethylbenzene	BTEX	20	53		0.018	0.018	μg/g	0.002	1.1		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Toluene	BTEX	20	53	0.003	0.08	0.08	μg/g	0.002	2.3		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Xylenes, Total	BTEX	20	53		0.05	0.05	μg/g	0.002	3.1		0	0	0		No, excluded (Max < or = Table 2 SCS)
Dioxins and Furans	Dioxins/Furan	2	2	0.0558		0.0558	pg/g	1	13		0	0	0		No, excluded (Max < or = Table 2 SCS)
Conductivity	Inorganics	17	58	2.95		2.95	mS/cm	0.004	0.7		34		0	0	No, excluded (See Table 6-7b)
Cyanide, Weak Acid Dissociable	Inorganics	17	48		0.05	0.05	μg/g	0.05	0.051		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Sodium Absorption Ratio	Inorganics	17	64	108		108	SAR	0.1	5		56		0	0	No, excluded (See Table 6-7b)
Antimony	Metal	34	68	1	1	1	μg/g	1	7.5		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Arsenic	Metal	34	68	6.6	1	6.6	μg/g	1	18		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Barium	Metal	34	68	111		111	μg/g	1	390		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Beryllium	Metal	34	68	0.98	0.5	0.98	μg/g	0.5	4		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Boron	Metal	34	68	10.9	5	10.9	μg/g	0.1	120		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Boron (Hot Water Ext.)	Metal	17	48	0.81	0.1	0.81	μg/g	0.1	1.5		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Cadmium	Metal	34	68		0.5	0.5	μg/g	0.5	1.2		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Calcium	Metal	17	64	51.2	0.5	51.2	mg/l	0.5	-	53508	0	0	63	1	No, excluded (Max < or = OTR value)
Chromium	Metal	34	68	29.3		29.3	μg/g	1	160		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Chromium, Hexavalent (Cr6+)	Metal	31	62	1.04	2	2	μg/g	0.2	8		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Cobalt	Metal	34	68	8.6		8.6	μg/g	1	22		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Copper	Metal	34	68	33.1		33.1	μg/g	1	140		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Magnesium	Metal	17	64	27.2	0.5	27.2	mg/l	0.5	-	17400	0	0	50	14	No, excluded (Max < or = OTR value)
Methyl Mercury	Metal	2	2		0.00005	0.00005	mg/kg	0.00005	0.0084		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Molybdenum	Metal	34	68		1	1	μg/g	1	6.9		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Nickel	Metal	20	54	19.5		19.5	μg/g	1	100		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Selenium	Metal	34	68		1	1	μg/g	1	2.4		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Silver	Metal	34	68	0.21	0.2	0.21	μg/g	0.2	20		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Sodium	Metal	17	64	614		614	mg/l	0.5	-	216	0	0	64		No, excluded (See Table 6-7b)
Thallium	Metal	34	68	1	1	1	μg/g	0.5	1		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Uranium	Metal	20	54		1	1	μg/g	1	23		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Vanadium	Metal	34	68	50.8		50.8	μg/g	1	86		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Zinc	Metal	34	68	246		246	μg/g	5	340		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
2-(1-)Methylnaphthalene	PAH	22	54	0.067	0.085	0.085	μg/g	0.03	0.99		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Acenaphthene	PAH	22	54		0.05	0.05	μg/g	0.05	7.9		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Acenaphthylene	PAH	22	54	0.054	0.05	0.054	μg/g	0.05	0.15		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Anthracene	PAH	22	54		0.05	0.05	μg/g	0.05	0.67		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(a)anthracene	PAH	22	54	0.14	0.05	0.14	μg/g	0.05	0.5		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(a)pyrene	PAH	22	54	0.24	0.05	0.24	μg/g	0.02	0.3		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(b&j)fluoranthene	PAH	22	54	0.18	0.05	0.18	μg/g	0.05	0.78		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(g,h,i)perylene	PAH	22	54	0.237	0.05	0.237	μg/g	0.05	6.6		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Benzo(k)fluoranthene	PAH	22	54	0.11	0.05	0.11	μg/g	0.05	0.78		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Chrysene	PAH	22	54	0.18	0.05	0.18	μg/g	0.05	7		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Dibenzo(a,h)anthracene	PAH	22	54	0.13	0.05	0.13	μg/g	0.05	0.1		1		0	0	No, excluded (See Table 6-7b)
Fluoranthene	PAH	22	54	0.19	0.05	0.19	μg/g	0.05	0.69		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Fluorene	PAH	22	54		0.05	0.05	μg/g	0.05	62		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Indeno(1,2,3-Cd)Pyrene	PAH	22	54	0.14	0.05	0.14	μg/g	0.05	0.38		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Naphthalene	PAH	22	54	0.039	0.065	0.065	μg/g	0.013	0.6		0	0	0	0	No, excluded (Max < or = Table 2 SCS)

Table 6-7a. Preliminary COC Screening in Soil

Phase Two Environmental Site Assesment, 55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

				AAnv		Maximum		Minimum			No. of	No. of	No. of	No. of	
	Parameter	No. of	No. of	Max Detected	Max Nondetect	Measured		Detection Limit	Applicable SCS		Detects Exceeding	Nondetects exceeding	Detects with no Table 2		Retained as a Contaminant for Phase Two ESA?
Contaminant ^a	Group	Stations	Samples	Concentration	Concentration	Concentration b.	Units	(MDL)	c.	Other Criteria d	Table 2 SCS	Table 2 SCS	SCS	2 SCS	(Rationale)
Phenanthrene	PAH	22	54	0.123	0.05	0.123	µg/g	0.046	6.2		0	0	0		No. excluded (Max < or = Table 2 SCS)
Pyrene	PAH	22	54	0.178	0.05	0.178	μg/g	0.05	78		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
PCB, Total	PCB	5	9		0.02	0.02	μg/g	0.01	0.35		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Gravimetric Heavy Hydrocarbons	PHC	5	5	2110	0	2110	ug/g	250	2800		0	0	0		No. excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F1 (C6-C10)	PHC	27	61		5	5	μg/g	5	55		0	0	0	-	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F2 (C10-C16)	PHC	27	61		20	20	μg/g	10	98		0	0	0		No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F3 (C16-C34)	PHC	27	61	300	50	300	μg/g	50	300		0	0	0		No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F4 (C34-C50)	PHC	27	61	2110	50	2110	μg/g	50	2800		0	0	0		No. excluded (Max < or = Table 2 SCS)
1,1,1,2-Tetrachloroethane	VOC	20	53		0.05	0.05	μg/g	0.008	0.058		0	0	0	-	No, excluded (Max < or = Table 2 SCS)
1,1,1-Trichloroethane	VOC	20	53		0.05	0.05	μg/g	0.008	0.38		0	0	0		No. excluded (Max < or = Table 2 SCS)
1,1,2,2-Tetrachloroethane	VOC	20	53		0.05	0.05	μg/g	0.004	0.05		0	0	0	-	No, excluded (Max < or = Table 2 SCS)
1.1.2-Trichloroethane	VOC	20	53		0.05	0.05	μg/g	0.002	0.05		0	0	0		No. excluded (Max < or = Table 2 SCS)
1,1-Dichloroethane	VOC	20	53		0.05	0.05	μg/g	0.002	0.47		0	0	0		No, excluded (Max < or = Table 2 SCS)
1.1-Dichloroethene	VOC	20	53		0.05	0.05	μg/g	0.002	0.05		0	0	0		No, excluded (Max < or = Table 2 SCS)
1,2-Dibromoethane	VOC	20	53		0.05	0.05	μg/g	0.002	0.05		0	0	0		No, excluded (Max < or = Table 2 SCS)
1.2-Dichlorobenzene	VOC	20	53		0.05	0.05	μg/g	0.002	1.2		0	0	0		No. excluded (Max < or = Table 2 SCS)
1,2-Dichloroethane	VOC	20	53		0.05	0.05	μg/g	0.002	0.05		0	0	0	-	No, excluded (Max < or = Table 2 SCS)
1,2-Dichloropropane	VOC	20	53		0.05	0.05	μg/g	0.002	0.05		0	0	0		No, excluded (Max < or = Table 2 SCS)
1.3-Dichlorobenzene	VOC	20	53		0.05	0.05	μg/g μg/g	0.002	4.8		0	0	0		No. excluded (Max < or = Table 2 SCS)
1,3-Dichloropropene	VOC	20	53		0.042	0.042	μg/g μg/g	0.042	0.05		0	0		-	No, excluded (Max < or = Table 2 SCS)
1.4-Dichlorobenzene	VOC	20	53		0.05	0.05	μg/g μg/g	0.002	0.083		0	0	0		No. excluded (Max < or = Table 2 SCS)
2-Butanone	VOC	20	53		0.5	0.05	μg/g μg/g	0.002	16		0	0	0	-	No, excluded (Max < or = Table 2 SCS)
4-Methyl-2-Pentanone	VOC	20	53		0.5	0.5		0.2	1.7		0	0	0		No. excluded (Max < or = Table 2 SCS)
Acetone	VOC	20	53		0.5	0.5	μg/g	0.2	16		0	0	0		No, excluded (Max < or = Table 2 SCS)
Bromodichloromethane	VOC	20	53		0.05	0.05	μg/g μg/g	0.005	1.5		0	0	0	-	No, excluded (Max < or = Table 2 SCS)
Bromoform	VOC	20	53		0.05	0.05		0.003	0.27		0	0	0		No, excluded (Max < or = Table 2 SCS)
Bromomethane	VOC	20	53		0.05	0.05	μg/g μg/g	0.002	0.05		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Carbon tetrachloride	VOC	20	53		0.05	0.05		0.003	0.05		0	0	0		No, excluded (Max < or = Table 2 SCS)
Chlorobenzene	VOC	20	53		0.05	0.05	μg/g	0.002	2.4		0	0	0		No, excluded (Max < or = Table 2 SCS)
Chlorodibromomethane	VOC	20	53		0.05	0.05	μg/g	0.002	2.3		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Chloroform	VOC	20	53		0.05	0.05	μg/g	0.003	0.05		0	0	0		No, excluded (Max < or = Table 2 SCS)
cis-1.2-Dichloroethene	VOC	20	53		0.05	0.05	μg/g	0.006	1.9		0	0	0	-	No. excluded (Max < or = Table 2 SCS)
Dichlorodifluoromethane	VOC	20	53		0.05	0.05	μg/g	0.02	1.9		0	0	0	-	No, excluded (Max < or = Table 2 SCS)
Dichloromethane	VOC	20	53		0.063	0.063	μg/g	0.03	0.1		0	0	0		No. excluded (Max < or = Table 2 SCS)
	VOC	20					μg/g				0	0	0	0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Methyl tert-butyl ether (MTBE)			53 49		0.2	0.2	μg/g	0.05	0.75		0	0	0		No, excluded (Max < or = Table 2 SCS)
n-Hexane	VOC	17			0.05	0.05	μg/g	0.05	2.8						No, excluded (Max < or = Table 2 SCS)
Styrene	VOC	20	53		0.05	0.05	μg/g	0.002	0.7		0	0	0		No, excluded (Max < or = Table 2 SCS)
Tetrachloroethene	VOC	20	53		0.05	0.05	μg/g	0.002	0.28			0	-		No, excluded (Max < or = Table 2 SCS)
trans-1,2-Dichloroethene	VOC	20	53		0.05	0.05	μg/g	0.002	0.084		0	0	0		No, excluded (Max < or = Table 2 SCS)
Trichloroethylene	VOC	20	53	0.004	0.01	0.01	μg/g	0.004	0.061		0	0	0		No, excluded (Max < or = Table 2 SCS)
Trichlorofluoromethane	VOC	20	53		0.05	0.05	μg/g	0.03	4		0	0	0	0	No, excluded (Max < or = Table 2 SCS)
Vinyl Chloride	VOC	20	53		0.02	0.02	μg/g	0.003	0.02		0	0	0	0	No, excluded (Max < or = Table 2 SCS)

Notes:

Grey shaded parameters have been reviewed further. Refer to Table 6-7b.

Bold parameters are identified as COCs

--= no value or not applicable MECP = Ontario Ministry of the Environment, Conservation and Parks

> = greater than mS/cm = milliSiemen per centimetre

< = less than No. = number

μg/g = microgram per gram PAH = polycyclic aromatic hydrocarbons
ABN = acid, base, and neutral compounds PCB = polychlorinated biphenyl

COC = contaminant of concern PHC = petroleum hydrocarbon
F = fraction SCS = Site Condition Standard

Max = maximum concentration

MDL = method detection limit

OTR = Ontario Typical Range

a. The representative maximum concentration (the maximum concentration of similar analytes or total concentration of multiple isomers) is used for comparison.

^b. Column lists the greater of the maximum detected concentration and the maximum nondetect concentration.

^c Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards in a Potale Ground Water Condition, for Residential/ Parkland/ Institutional Property Type Use and Coarse Textured Soils (MECP, 2011a).

d. For calcium, magnesium, and sodium, the Ontario Typical Ranges for an urban scenario are applied (MECP, 2011b)

Table 6-7b. Rationale for the Removal of Soil COCs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Parameter				
Group	Parameter	Category	Sample(s)	Comment/Rationale
INORGANICS	Sodium	Parameter with no Table 2 SCS but	18 samples across the Site	18 of a total of 64 samples had detected concentrations greater than the
		detected concentrations above the	from 2019 and 2020.	OTR value of 216 µg/g. The remaining 46 samples had detected
		OTR value.		concentrations of sodium below the OTR value. Sodium risks are currently
				analyzed using SAR analysis. SAR results are discussed in Table 6-7c
				Based on the available information, at the discretion of the QPESA, sodium
				is not considered to be a COC for the Site.

Notes:

The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.

µg/g = micrograms per gram QPESA = MECP Qualified Person for Environmental Site Assessment

COC = contaminant of concern SAR = sodium adsorption ratio
O. Reg. = Ontario Regulation SCS = Site Condition Standards

OTR = Ontario Typical Range

Table 6-7c. Rationale for the Exclusion of Soil COCs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Parameter				
Group	Parameter	Category	Sample(s)	Comment/Rationale
РАН	Dibenzo[a,h]anthracene	Parameter with existing SCS and detected exceedance.	1 sample from BH-14 (0.8 to 1.4 mbgs) from 2008 (COA L712303).	One exceedances of dibenzo[a,h]anthracene was detected across the Phase Two Property from a historical sample at BH-14. In November 2019, BH208 was drilled in the same area as BH-14, and samples were collected between 0.91 to 1.07 mbgs, and 2.3 to 2.44 mbgs. The results from the two locations were averaged below the SCS.
				Based on the available information, this parameter was determined to likely not be present at concentrations exceeding the SCS; therefore, at the discretion of the QPESA, was not considered to be a COC for the Phase Two Property.
INORGANICS	Conductivity (EC) Sodium Adsorption Ratio (SAR)	Parameter with Table 2 SCS and exemptions in Section 49.1 of O. Reg. 153/04	34 (EC) and 56 (SAR) samples across the Site from 2019 and 2020.	The presence of EC and SAR at the Site are related to the application of salt on the parking lot surface during winter conditions. The application of salt has been used for the safety of vehicular and pedestrian traffic. Under Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act should a substance be applied to surfaces for hte safety of vehicularor pedestrian traffic under conditions of snow or ice or both. Therefore, at the discretion of the QPESA, EC and SAR were not considered to be COCs for the Phase Two Property.

Notes:

The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.

μg/g = micrograms per gram O. Reg. = Ontario Regulation

COA = certificate of analysis PAH = polycyclic aromatic hydrocarbon

COC = contaminant of concern QPESA = MECP Qualified Person for Environmental Site Assessment

EC = electrical conductivity SAR = sodium adsorption ratio mbgs = metres below ground surface SCS = Site Condition Standards

Table 6-7d. Contaminants of Concern Identified in Soil

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Analytical Group		Analytes
Metals	Lead	Mercury

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario

daetpri, Oritano		Location	MW	100		MW101		MW	102A	MW	102B		MW103			MV	W104
		Sample ID		MW100	MW101	MW101	MW101	MW102A	MW102A	MW102B	MW102B	DUP1	MW103	MW103	DUP2	MW104	DUP3
		Sample Date	9/6/2019	12/19/2019	9/5/2019	9/24/2019	12/20/2019	9/6/2019	12/19/2019	9/6/2019	12/19/2019	9/5/2019	9/5/2019	12/18/2019	9/5/2019	9/5/2019	12/20/2019
		Sample Type	N	N	N N	N	N	N	N	N N	N	FD	N	N	FD	N	FD
		Start Depth	5.49	5.49	5.71	5.71	5.71	2.13	2.13	8.84	8.84	2.13	2.13	2.13	5.94	5.94	5.94
		End Depth	8.53	8.53	8.76	8.76	8.76	5.18	5.18	10.36	10.36	5.18	5.18	5.18	8.99	8.99	8.99
Analyte	Units	Table 2 SCS ^a	0.00		 •	55	J., J	55				55		55	G.,,		
Acids, Bases, Neutrals (ABNs)	Offics	ruote 2 3e3															
1,1'-Biphenyl	ug/l	0.5				I			I		I				0.4 U	0.4 U	0.4 U
1,2,4-Trichlorobenzene	ug/l	70													0.4 U	0.4 U	0.4 U
2,4 & 2,6-Dinitrotoluene	ug/l	5													0.4 U	0.4 U	0.4 U
2,4-Dimethylphenol	ug/l ug/l	59													0.5 U	0.5 U	0.5 U
2,4-Dinitrophenol	ug/l	10													1 U	1 U	1 U
2,4-Dinitrotoluene	ug/l	5													0.4 U	0.4 U	0.4 U
2,6-Dinitrotoluene	ug/l	5													0.4 U	0.4 U	0.4 U
3,3'-Dichlorobenzidine	ug/l ug/l	0.5													0.4 U	0.4 U	0.4 U
4-Chloroaniline	ug/l	10													0.4 U	0.4 U	0.4 U
Bis (2-chloroethyl) ether	ug/l	5													0.4 U	0.4 U	0.4 U
bis (2-Chloroisopropyl) ether	ug/l ug/l	120			<u></u>										0.4 U	0.4 U	0.4 U
Bis (2-ethylhexyl) phthalate	ug/l ug/l	120			<u></u>										2.3	2	2 U
Diethylphthalate	ug/l ug/l	38			<u></u>										0.2 U	0.2 U	0.2 U
Dimethylphthalate	ug/l ug/l	38													0.2 U	0.2 U	0.2 U
Phenol	ug/l ug/l	890			<u></u>										0.2 U	0.2 U	0.2 U
	ug/t	890													0.5 0	0.5 0	0.5 0
Inorganics	/I	700	6070	9010	1200	ı	270	(010	01/0	0(10	8500	1000	(500	F800		2660	
Chloride (Cl)	mg/l	790 NV	6970 20.1	8010 23	1380 4.18		370 1.76	6010 17.9	8140 23.5	9610 27	8500 24.3	4980 14.5	6580 14.6	5890 15.4		2660 7.24	
Conductivity Cyanide, Weak Acid Dissociable	mS/cm	66	2.8	2 U	2 U		2 U	2 U	8.4	2 U	2 4.3 2 U	2.5	2 U	2 U		2 U	
	ug/l pH UNITS	NV	7.77	7.82	7.86		7.76	7.43	7.49	7.14	7.34	7.44	7.55	7.53		7.8	
pH Sodium		490000	4590000	7.82	725000			3960000		6100000		3150000	3140000			1360000	
Sodium Absorption Ratio	ug/l SAR	490000 NV			21.8 J			0.1 U		22 J		130 UJ	130 UJ			130 UJ	
Metals	SAR	INV	0.1 U		2 1.8 J			0.10		22 J		130 03	130 03			130 03	
Antimony	ug/l	6	10 U		1 U			10 U		10 U		1 U	1 U			1 U	
,		25	10 U		1 U			10 U		10 U		1.2	1 U			1 U	
Arsenic Barium	ug/l ug/l	1000	356	392	87.1		53.1	462	 526	619	556	403	406	378		164	
Beryllium	ug/l ug/l	4	10 U	10 U	1 U		1 U	10 U	10 U	10 U	10 U	1 U	1 U	1 U		1 U	
Boron	ug/l ug/l	5000	1000 U	1000 U	100 U		100 U	1000 U	1000 U	1000 U	1000 U	100 U	100 U	100 U		100 U	
Cadmium	ug/l ug/l	2.7	1.1	0.72	0.05 U		0.05 U	0.5 U	0.5 U	1.02	0.78	0.134	0.131	0.128		0.05 U	
Chromium	ug/l ug/l	50	50 U	50 U	5 U		5 U	50 U	50 U	50 U	50 U	5 U	5 U	5 U		5 U	
Chromium, Hexavalent (Cr6+)	ug/l ug/l	25	3.87	4.15	0.55		0.51	0.5 U	0.51	1.28	0.51	0.5 U	0.56	0.5 U		0.5 U	
		3.8	10 U	4.15 10 U	1 U		1 U	10 U	10 U	1.28 10 U	10 U	1 U	1 U	1.4		1 U	
Cobalt Copper	ug/l ug/l	87	20 U	20 U	2.4		2.2	20 U	20 U	20 U	20 U	3.1 J	4.4 J	3		2.1	
Lead	ug/l ug/l	10	5 U	5 U	0.5 U		0.5 U	5 U	5 U	5 U	5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Mercury	ug/l	0.29	0.005 U	0.005 U	0.005 U		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		0.005 U	
Molybdenum	ug/l	70	5 U	5 U	6.26		1.95	5 U	5 U	13.3	5 U	4.87	4.93	3.13		17.6	
Nickel	ug/l	100	50 U	50 U	5 U		5 U	50 U	50 U	50 U	50 U	5 U	5 U	5.13 5 U		5 U	
Selenium	ug/l	100	5 U		4.66			5 U		5 U		0.55	0.57			0.5 U	
Silver	ug/l ug/l	1.5	5 U	5 U	0.5 U		0.5 U	5 U	5 U	5 U	5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Thallium	ug/l ug/l	2	1 U	1 U	0.5 U		0.5 U	1 U	1 U	1 U	1 U	0.5 0	0.5 0	0.5 U		0.5 U	
Uranium	ug/l ug/l	20	1 U	1 U	0.10		0.76	3.5	1.7	1.8	1.6	4.7	4.76	5.79		1.83	
Vanadium	ug/l ug/l	6.2	50 U	50 U	5 U		5 U	50 U	50 U	50 U	50 U	5 U	5 U	5.79 5 U		5 U	
Zinc	ug/l ug/l	1100	100 U	100 U	10 U		10 U	100 U	100 U	100 U	100 U	10 U	10 U	10 U		10 U	
Polyaromatic Hydrocarbons (PAHs)	ug/t	1100	100 0	1000	10 0		100	1000	1000	1000	1000	100	100	100		100	
1-Methylnaphthalene	ug/l	3.2	0.02 U	0.02 U	0.02 U	l	0.02 U	0.02 U	0.02 U	0.022	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
2-(1-)Methylnaphthalene	ug/l ug/l	3.2	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.022 0.028 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
2-Methylnaphthalene	ug/l ug/l	3.2	0.028 U	0.028 U	0.028 U		0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U	0.028 U		0.028 U	
Acenaphthene	ug/l ug/l	4.1	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Acenaphthylene	ug/l ug/l	4.1	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
	ug/l ug/l	2.4	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Anthracene	ug/t	2.4	0.02 0	0.02 0	0.02 0		0.02 0	0.02 0	0.02 0	0.02 0	0.02 0	0.02 0	0.02 0	0.02 0		0.02 0	

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario			4414	1400		144404		1 4347	4024	A 4147	1020		1414400	1			1404
		Location	MW100	/100 MW100	MW101	MW101 MW101	MW101	MW102A	102A MW102A	MW102B	102B MW102B	DUP1	MW103 MW103	MW103	DUP2	MW104	V104 DUP3
		Sample ID													9/5/2019		
		Sample Date	9/6/2019	12/19/2019 N	9/5/2019	9/24/2019 N	12/20/2019	9/6/2019	12/19/2019		12/19/2019	9/5/2019	9/5/2019	12/18/2019 N		9/5/2019 N	12/20/2019
		Sample Type	N 5.49	5.49	N 5.71	5.71	N 5.71	N 2.13	N 2.13	N 8.84	N 8.84	FD 2.13	N 2.13	2.13	FD 5.94	5.94	FD 5.94
		Start Depth	8.53	8.53	5.71 8.76	8.76	8.76	5.18	5.18	10.36	10.36	5.18	5.18	5.18	5.94 8.99	5.94 8.99	8.99
Auralista	11	End Depth Table 2 SCS ^a	6.53	6.53	8.76	8.76	8.76	5.16	5.16	10.36	10.36	5.16	5.16	5.16	6.99	8.99	6.99
Analyte	Units	Table 2 SCS	0.0011	0.02.11	0.00.11		0.00.11	0.0011	0.02.11	0.00.11	0.02.11	0.02.11	0.02.11	0.02.11		0.02.11	
Benzo(a)anthracene	ug/l	1	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Benzo(a)pyrene	ug/l	0.01	0.01 U	0.01 U	0.01 U		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		0.01 U	
Benzo(b)fluoranthene	ug/l	0.1	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Benzo(g,h,i)perylene	ug/l	0.2	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Benzo(k)fluoranthene	ug/l	0.1	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Chrysene	ug/l	0.1	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Dibenzo(a,h)anthracene	ug/l	0.2	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Fluoranthene	ug/l	0.41	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Fluorene	ug/l	120	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Indeno(1,2,3-Cd)Pyrene	ug/l	0.2	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Naphthalene	ug/l	11	0.05 U	0.05 U	0.05 U		0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U	
Phenanthrene D	ug/l	1	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Pyrene Talana Ethallanaa Valanaa (PTEV)	ug/l	4.1	0.02 U	0.02 U	0.02 U		0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U	
Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	/1	_	0.511	0.511	0.5.11	0.511	0.511	0.511	0.511	0.5.11	0.5.11	0.5.11	0.511		1	0.5.11	
Benzene	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Ethylbenzene	ug/l	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Toluene	ug/l	24	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Xylene, o	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U		0.3 U	
Xylenes, m & p	ug/l	NV	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U		0.4 U	
Xylenes, Total	ug/l	300	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Petroleum Hydrocarbons (PHCs)		1				T											
Chrom. to baseline at nC50	None	NV	1 U	1 U	1 U		1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U		1 U	
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/l	NV	25 U	25 U	25 U		25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U		25 U	
Petroleum Hydrocarbons F1 (C6-C10)	ug/l	750	25 U	25 U	25 U		25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U		25 U	
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	ug/l	NV	100 U	100 U	100 U		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U		100 U	
Petroleum Hydrocarbons F2 (C10-C16)	ug/l	150	100 U	100 U	100 U		100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U		100 U	
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/l	NV	250 U	250 U	250 U		250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U		250 U	
Petroleum Hydrocarbons F3 (C16-C34)	ug/l	500	250 U	250 U	250 U		250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U		250 U	
Petroleum Hydrocarbons F4 (C34-C50)	ug/l	500	250 U	250 U	250 U		250 U	250 U	250 U	250 U	250 U	250 U	250 U	250 U		250 U	
Total Petroleum Hydrocarbons (C6 to C50)	ug/l	NV	370 U	370 U	370 U		370 U	370 U	370 U	370 U	370 U	370 U	370 U	370 U		370 U	
Volatile Organic Carbons (VOCs)	/1	1	0.5.11	0511	0.5.11	1 0511	1 0511	0.511	0.511	0.5.11	0.5.11	0.5.11	1 0511	1 0511		0.5.11	
1,1,1,2-Tetrachloroethane	ug/l	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,1,1-Trichloroethane	ug/l	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,1,2,2-Tetrachloroethane	ug/l	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,1,2-Trichloroethane	ug/l	4.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,1-Dichloroethane	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,1-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,2-Dibromoethane	ug/l	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	
1,2-Dichlorobenzene	ug/l	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,2-Dichloroethane	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,2-Dichloropropane	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,3-Dichlorobenzene	ug/l	59	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,3-Dichloropropene	ug/l	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
1,4-Dichlorobenzene	ug/l	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
2-Butanone	ug/l	1800	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		20 U	
4-Methyl-2-Pentanone	ug/l	640	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U		20 U	
Acetone	ug/l	2700	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U	30 U		30 U	
Bromodichloromethane	ug/l	16	2 U	2 U	6.7	7.1	6.6	2 U	2 U	2 U	2 U	2 U	2 U	2 U		4.7	
Bromoform	ug/l	25	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U	
Bromomethane	ug/l	0.89	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Carbon tetrachloride	ug/l	0.79	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		0.2 U	

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location	MW	/100		MW101		MW	102A	MW.	102B		MW103			MW	/104
		Sample ID	MW100	MW100	MW101	MW101	MW101	MW102A	MW102A	MW102B	MW102B	DUP1	MW103	MW103	DUP2	MW104	DUP3
		Sample Date	9/6/2019	12/19/2019	9/5/2019	9/24/2019	12/20/2019	9/6/2019	12/19/2019	9/6/2019	12/19/2019	9/5/2019	9/5/2019	12/18/2019	9/5/2019	9/5/2019	12/20/2019
		Sample Type	N	N	N	N	N	N	N	N	N	FD	N	N	FD	N	FD
		Start Depth	5.49	5.49	5.71	5.71	5.71	2.13	2.13	8.84	8.84	2.13	2.13	2.13	5.94	5.94	5.94
		End Depth	8.53	8.53	8.76	8.76	8.76	5.18	5.18	10.36	10.36	5.18	5.18	5.18	8.99	8.99	8.99
Analyte	Units	Table 2 SCS ^a															
Chlorobenzene	ug/l	30	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Chlorodibromomethane	ug/l	25	2 U	2 U	4.9	4.5	5.4	2 U	2 U	2 U	2 U	2 U	2 U	2 U		4.1	
Chloroform	ug/l	2.4	1 U	1 U	12	11.9	8.5	1 U	1 U	1.5	1 U	1 U	1 U	1 U		4.9	
cis-1,2-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
cis-1,3-Dichloropropene	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U		0.3 U	
Dichlorodifluoromethane	ug/l	590	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U		2 U	
Dichloromethane	ug/l	50	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U	
Methyl tert-butyl ether (MTBE)	ug/l	15	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U		2 U	
n-Hexane	ug/l	51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Styrene	ug/l	5.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Tetrachloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
trans-1,2-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
trans-1,3-Dichloropropene	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U		0.3 U	
Trichloroethylene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	
Trichlorofluoromethane	ug/l	150	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U		5 U	
Vinyl Chloride	ug/l	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		0.5 U	

^a MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment. April 15.

-- = Analyte not analyzed

Bold denote positive detection at or above reportable detection limit Shading denotes detected results that exceeds the applicable standard U = Analyte not detected ug/L = microgram(s) per litre ug/g = microgram per gram mg/L = milligram(s) per litre mS/cm = millisiemen per centimeter SAR = Sodiuim Absorption Ratio ID = identification NV = no value available in applicable standards

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario					1						1		1			T	
		Location		MW105	DUDA		1107	144407		107B		/108	14111400	MW109	1 11111100		110A
		Sample ID		MW105	DUP3	MW107	MW107	MW107	MW107B	MW107B	MW108	MW108	MW109	DUP1	MW109	MW110A	MW110A
		Sample Date			9/6/2019	9/6/2019	9/24/2019	12/18/2019		12/18/2019	9/5/2019	12/19/2019	9/5/2019	12/19/2019			12/20/2019
		Sample Type		N	FD	N	N	N	N	N	N	N	N	FD	N	N	N
		Start Depth		5.64	5.33	5.33	5.33	5.33	13.56	13.56	6.71	6.71	7.32	7.32	7.32	5.33	5.33
	T	End Depth	8.99	8.69	8.38	8.38	8.38	8.38	15.39	15.39	9.75	9.75	10.36	10.36	10.36	8.38	8.38
Analyte	Units	Table 2 SCS ^a								<u> </u>		<u> </u>			<u> </u>	<u> </u>	<u> </u>
Acids, Bases, Neutrals (ABNs)					ı	T	T	1			ı	T	1	1	T	T	
1,1'-Biphenyl	ug/l	0.5	0.4 U														
1,2,4-Trichlorobenzene	ug/l	70	0.4 U														
2,4 & 2,6-Dinitrotoluene	ug/l	5	0.57 U														
2,4-Dimethylphenol	ug/l	59	0.5 U														
2,4-Dinitrophenol	ug/l	10	1 U														
2,4-Dinitrotoluene	ug/l	5	0.4 U														
2,6-Dinitrotoluene 3.3'-Dichlorobenzidine	ug/l	5 0.5	0.4 U 0.4 U														
4-Chloroaniline	ug/l		0.4 U														
Bis (2-chloroethyl) ether	ug/l ug/l	10 5	0.4 U														
bis (2-Chloroisopropyl) ether	ug/l ug/l	120	0.4 U														
Bis (2-ethylhexyl) phthalate	ug/t ug/l	10	2 U														
Diethylphthalate	ug/l ug/l	38	0.2 U														
Dimethylphthalate	ug/l ug/l	38	0.2 U														
Phenol	ug/l	890	0.2 U														
Inorganics	ug/t	870	0.5 0														
Chloride (Cl)	mg/l	790	4170	2170	918	969	l	722			2640	272	448	469	459		T
Conductivity	mS/cm	NV	11	5.92	3.17	3.22		2.71			1.85	1.88	1.89	1.82	1.81		
Cyanide, Weak Acid Dissociable	ug/l	66	2 U	2 U	2 U	2 U		2 U			2 U	2 U	2 U	2 U	2 U		
pH	pH UNITS	NV	7.47	8.08	7.66	7.76		7.78			7.93	7.73	8.11	8.23	8.22		
Sodium	ug/l	490000		1200000	506000	505000	436000		347000		131000		304000			4750000	
Sodium Absorption Ratio	SAR	NV		130 UJ	5.8 J	5.8 J					10 UJ		0.1 U				
Metals																	†
Antimony	ug/l	6		1 U	1 U	1 U	1 U		1 U		0.43		1 U			6 U	
Arsenic	ug/l	25		1 U	1 U	1 U	1 U		1 U		0.51		1 U			10 U	
Barium	ug/l	1000	225	136	99.2	94.1	87.8	87.2	106	109	99.5	93.3	43.3	39.9	38.9	708	744
Beryllium	ug/l	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.1 U	0.1 U	1 U	1 U	1 U	4 U	10 U
Boron	ug/l	5000	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	64	60	100 U	100 U	100 U	1000 U	1000 U
Cadmium	ug/l	2.7	0.05 U	0.75	2.98	3.01	3.13	3.37	0.075	0.05 U	0.01 U	0.017	0.05 U	0.05 U	0.05 U	1.26	1.5
Chromium	ug/l	50	5 U	5 U	5 U	5 U	5 U	5 U	5.9	5.5	1.24	0.5 U	5 U	5 U	5 U	50 U	50 U
Chromium, Hexavalent (Cr6+)	ug/l	25	0.5 U	2.01	3.62	3.8		0.87			0.5 U	0.5 U	2	2.04	2.05		
Cobalt	ug/l	3.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.33	0.37	1 U	1 U	1 U	3.8 U	10 U
Copper	ug/l	87	2.5	2 U	2.4	2 U	2.2	2 U	2 U	4.7	4.01	2.02	2.1	2 U	2.5	20 U	20 U
Lead	ug/l	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.061	0.066	0.72	0.5 U	0.5 U	5 U	5 U
Mercury	ug/l	0.29	0.005 U	0.005 U	0.0054	0.005 U		0.005 U			0.005 U	0.005 U	0.005 U	0.005 U	0.005 U		
Molybdenum	ug/l	70	3.97	13	1.14	1.05	0.9	1.09	0.5 U	0.68	14.2	2.7	5.65	4.53	4.47	5 U	5 U
Nickel	ug/l	100	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	3.44	3.36	5 U	5 U	5 U	50 U	50 U
Selenium	ug/l	10		0.55	1.01	1.01	1.11		0.97		0.253		0.57			5 U	
Silver	ug/l	1.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.05 U	0.05 U	0.5 U	0.5 U	0.5 U	1.5 U	5 U
Thallium	ug/l	2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.055	0.042	0.1 U	0.1 U	0.1 U	1 U	1 U
Uranium	ug/l	20	1.53	1.27	0.6	0.63	0.63	0.67	1.44	1.3	2.33	3.25	0.34	0.38	0.37	2.2	1.8
Vanadium	ug/l	6.2	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.76	0.5 U	5 U	5 U	5 U	50 U	50 U
Zinc	ug/l	1100	10 U	11	14	11	13	14	14	12	1.7	2.9	14	10 U	10 U	100 U	100 U
Polyaromatic Hydrocarbons (PAHs)					1		ı	1			1			1			
1-Methylnaphthalene	ug/l	3.2	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
2-(1-)Methylnaphthalene	ug/l	3.2	0.028 U	0.028 U	0.028 U	0.028 U		0.028 U			0.028 U	0.028 U	0.028 U	0.028 U	0.028 U		
2-Methylnaphthalene	ug/l	3.2	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Acenaphthene	ug/l	4.1	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Acenaphthylene	ug/l ug/l	1 2.4	0.02 U 0.02 U	0.02 U 0.02 U	0.02 U 0.02 U	0.02 U 0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Anthracene				0.0011	. 00011	1 00011		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario				141405		4414	1407		I 4000	407D		1400		1411400			4404
		Location		MW105 MW105	DUP3	MW107	107 MW107	MW107	MW107B	107B MW107B	MW108	/108 MW108	MW109	MW109 DUP1	MW109	MW110A	110A MW110A
		Sample ID						_				12/19/2019				_	
		Sample Date	12/20/2019 N	9/6/2019 N	9/6/2019	9/6/2019		12/18/2019			9/5/2019 N		9/5/2019	12/19/2019	N N	N N	12/20/2019
		Sample Type	5.94	5.64	FD 5.33	N 5.33	N 5.33	N 5.33	N 13.56	N 13.56	6.71	N 6.71	N 7.32	FD 7.32	7.32	5.33	N 5.33
		Start Depth			8.38	8.38	8.38	8.38	15.39	15.39	9.75	9.75	10.36	10.36	10.36	8.38	
Auralista	l lades	End Depth	8.99	8.69	8.38	8.38	8.38	6.36	15.39	15.39	9.75	9.75	10.36	10.36	10.36	6.36	8.38
Analyte	Units	Table 2 SCS ^a	0.00.11	0.0011				2 22 11				2 22 11		0.0011	0.0011		
Benzo(a)anthracene	ug/l	1	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Benzo(a)pyrene	ug/l	0.01	0.01 U	0.01 U	0.01 U	0.01 U		0.01 U			0.01 U	0.01 U	0.01 U	0.01 U	0.01 U		
Benzo(b)fluoranthene	ug/l	0.1	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Benzo(g,h,i)perylene	ug/l	0.2	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Benzo(k)fluoranthene	ug/l	0.1	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Chrysene Dibarra (a.b.) anthorough	ug/l	0.1	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Dibenzo(a,h)anthracene	ug/l	0.2	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Fluoranthene	ug/l	0.41	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Fluorene	ug/l	120	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Indeno(1,2,3-Cd)Pyrene	ug/l	0.2	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Naphthalene	ug/l	11	0.05 U	0.05 U	0.05 U	0.05 U		0.05 U			0.05 U	0.05 U	0.05 U	0.05 U	0.05 U		
Phenanthrene	ug/l	1	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
Pyrene Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	ug/l	4.1	0.02 U	0.02 U	0.02 U	0.02 U		0.02 U			0.02 U	0.02 U	0.02 U	0.02 U	0.02 U		
	116/1	5	0.5 U	0.511	0.5 U	0.5 U	0.5 U	0.5 U	1		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	<u> </u>	
Benzene	ug/l	2.4	0.5 U	0.5 U 0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
Ethylbenzene	ug/l	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
Toluene	ug/l	NV	0.5 U	0.5 U		0.3 U	0.3 U	0.3 U			0.3 U	0.5 U	0.3 U	0.5 U	0.3 U		
Xylene, o	ug/l		0.3 U 0.4 U	0.3 U 0.4 U	0.3 U 0.4 U	0.3 U 0.4 U	0.3 U 0.4 U	0.3 U			0.3 U 0.4 U	0.3 U 0.4 U	0.3 U 0.4 U	0.3 U	0.3 U		
Xylenes, m & p Xylenes. Total	ug/l ug/l	NV 300	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U			0.4 U	0.4 U	0.4 U	0.4 U	0.4 U		
Petroleum Hydrocarbons (PHCs)	ug/t	300	0.5 0	0.5 0	0.5 0	0.5 0	0.5 0	0.5 0			0.5 0	0.5 0	0.5 0	0.5 0	0.5 0		
Chrom. to baseline at nC50	None	NV	1 U	1 U	1 U	1 U		1 U		I	1 U	1 U	1 U	1 U	1 U		
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	ug/l	NV	25 U	25 U	25 U	25 U		25 U			25 U	25 U	25 U	25 U	25 U		
Petroleum Hydrocarbons F1 (C6-C10)	ug/l	750	25 U	25 U	25 U	25 U		25 U			25 U	25 U	25 U	25 U	25 U		
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	ug/l	NV	100 U	100 U	100 U	100 U		100 U			100 U	100 U	100 U	100 U	100 U		
Petroleum Hydrocarbons F2 (C10-C16)	ug/l	150	100 U	100 U	100 U	100 U		100 U			100 U	100 U	100 U	100 U	100 U		
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	ug/l	NV	250 U	250 U	250 U	250 U		250 U			250 U	250 U	250 U	250 U	250 U		
Petroleum Hydrocarbons F3 (C16-C34)	ug/l	500	250 U	250 U	250 U	250 U		250 U			250 U	250 U	250 U	250 U	250 U		
Petroleum Hydrocarbons F4 (C34-C50)	ug/l	500	250 U	250 U	250 U	250 U		250 U			250 U	250 U	250 U	250 U	250 U		
Total Petroleum Hydrocarbons (C6 to C50)	ug/l	NV	370 U	370 U	370 U	370 U		370 U			370 U	370 U	370 U	370 U	370 U		
Volatile Organic Carbons (VOCs)	ug/t	1 144	3100	3100	3700	3700	<u>l</u>	3700			3700	3100	3700	3700	3700	<u>l</u>	
1,1,1,2-Tetrachloroethane	ug/l	1.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,1,1-Trichloroethane	ug/l	200	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,1,2,2-Tetrachloroethane	ug/l	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,1,2-Trichloroethane	ug/l	4.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,1-Dichloroethane	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.56	0.5 U	0.5 U	0.5 U		
1,1-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,2-Dibromoethane	ug/l	0.2	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
1,2-Dichlorobenzene	ug/l	3	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,2-Dichloroethane	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,2-Dichloropropane	ug/l	5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,3-Dichlorobenzene	ug/l	59	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,3-Dichloropropene	ug/l	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
1,4-Dichlorobenzene	ug/l	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
2-Butanone	ug/l	1800	20 U	20 U	20 U	20 U	20 U	20 U			20 U	20 U	20 U	20 U	20 U		
4-Methyl-2-Pentanone	ug/l	640	20 U	20 U	20 U	20 U	20 U	20 U			20 U	20 U	20 U	20 U	20 U		
Acetone	ug/l	2700	30 U	30 U	30 U	30 U	30 U	30 U			30 U	30 U	30 U	30 U	30 U		
Bromodichloromethane	ug/l	16	2 U	4.1	2 U	2 U	2 U	2 U			2 U	2 U	2 U	2 U	2 U		
Bromoform	ug/l	25	5 U	5 U	5 U	5 U	5 U	5 U			5 U	5 U	5 U	5 U	5 U		
Bromomethane	ug/l	0.89	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
Carbon tetrachloride	ug/l	0.79	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U			0.2 U	0.2 U	0.2 U	0.2 U	0.2 U		
	9, •						•		II.		•				•		

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location		MW105		MW	107		MW.	107B	MW	108		MW109		MW1	110A
		Sample ID	MW104	MW105	DUP3	MW107	MW107	MW107	MW107B	MW107B	MW108	MW108	MW109	DUP1	MW109	MW110A	MW110A
		Sample Date	12/20/2019	9/6/2019	9/6/2019	9/6/2019	9/24/2019	12/18/2019	11/26/2019	12/18/2019	9/5/2019	12/19/2019	9/5/2019	12/19/2019	12/19/2019	11/26/2019	12/20/2019
		Sample Type	N	N	FD	N	N	N	N	N	N	N	N	FD	N	N	N
		Start Depth	5.94	5.64	5.33	5.33	5.33	5.33	13.56	13.56	6.71	6.71	7.32	7.32	7.32	5.33	5.33
		End Depth	8.99	8.69	8.38	8.38	8.38	8.38	15.39	15.39	9.75	9.75	10.36	10.36	10.36	8.38	8.38
Analyte	Units	Table 2 SCS ^a															<u> </u>
Chlorobenzene	ug/l	30	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
Chlorodibromomethane	ug/l	25	2 U	4.1	2 U	2 U	2 U	2 U	-		2 U	2 U	2 U	2 U	2 U		
Chloroform	ug/l	2.4	1 U	3.5	11.6	11.3	10.9	7.8	-		2.3	1 U	1 U	1 U	1 U		
cis-1,2-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
cis-1,3-Dichloropropene	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	-		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U		
Dichlorodifluoromethane	ug/l	590	2 U	2 U	2 U	2 U	2 U	2 U	-		2 U	2 U	2 U	2 U	2 U		
Dichloromethane	ug/l	50	5 U	5 U	5 U	5 U	5 U	5 U	-		5 U	5 U	5 U	5 U	5 U		
Methyl tert-butyl ether (MTBE)	ug/l	15	2 U	2 U	2 U	2 U	2 U	2 U	-		2 U	2 U	2 U	2 U	2 U		
n-Hexane	ug/l	51	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
Styrene	ug/l	5.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
Tetrachloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
trans-1,2-Dichloroethene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
trans-1,3-Dichloropropene	ug/l	NV	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	-		0.3 U	0.3 U	0.3 U	0.3 U	0.3 U		
Trichloroethylene	ug/l	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		
Trichlorofluoromethane	ug/l	150	5 U	5 U	5 U	5 U	5 U	5 U			5 U	5 U	5 U	5 U	5 U		
Vinyl Chloride	ug/l	0.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	-		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U		

^a MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment. April 15.

-- = Analyte not analyzed

Bold denote positive detection at or above reportable detection limit Shading denotes detected results that exceeds the applicable standard U = Analyte not detected ug/L = microgram(s) per litre ug/g = microgram per gram mg/L = milligram(s) per litre mS/cm = millisiemen per centimeter SAR = Sodiuim Absorption Ratio ID = identification NV = no value available in applicable standards

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Guelph, Ontario		Location		MW110B		A 414/	111	Ī	A 414	/113	
		Sample ID	DUP	MW110B MW110B	MW110B	MW111	MW111	DUP1	MW113	MW113	MW113
		•				11/26/2019				4/22/2020	4/29/2020
		Sample Type		N	N	N	N	4/13/2020 N	FD	N	N
		Start Depth		13.56	13.56	13.56	13.56	5.33	5.33	5.33	5.33
		End Depth		15.39	15.39	15.39	15.39	8.38	8.38	8.38	8.38
Analyte	Units	Table 2 SCS ^a	13.37	13.37	15.57	13.37	15.57	0.50	0.50	0.50	0.50
Acids, Bases, Neutrals (ABNs)	Offics	Table 2 3C3						l			
1,1'-Biphenyl	ug/l	0.5									l
1,2,4-Trichlorobenzene	ug/t ug/l	70									
2,4 & 2,6-Dinitrotoluene	ug/t ug/l	5									
2,4-Dimethylphenol	ug/l	59									
2,4-Dinitrophenol	ug/l	10									
2,4-Dinitrotoluene	ug/l	5									
2,6-Dinitrotoluene	ug/l	5									
3,3'-Dichlorobenzidine	ug/l	0.5									
4-Chloroaniline	ug/l	10									
Bis (2-chloroethyl) ether	ug/l	5									
bis (2-Chloroisopropyl) ether	ug/l	120									
Bis (2-ethylhexyl) phthalate	ug/l	10									
Diethylphthalate	ug/l	38									
Dimethylphthalate	ug/l	38									
Phenol	ug/l	890									
Inorganics	, 3,					I.	I.	<u>I</u>	1	1	1
Chloride (Cl)	mg/l	790						8330	4470	3010	
Conductivity	mS/cm	NV						13.9	14.2	7.79	
Cyanide, Weak Acid Dissociable	ug/l	66						2 U	2 U	2 U	
pH	pH UNITS	NV						7.69	7.7	7.83	
Sodium	ug/l	490000	2360000	2310000		2490000		2390000	2440000	1470000	3170000
Sodium Absorption Ratio	SAR	NV									
Metals											
Antimony	ug/l	6	1 U	1 U	-	1 U		1 U	1 U	1 U	1 U
Arsenic	ug/l	25	1 U	1 U		1 U		1 U	1 U	1 U	1 U
Barium	ug/l	1000	147	150	147	105	102	274	278	146	319
Beryllium	ug/l	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Boron	ug/l	5000	110	110	120	200	240	100 U	100 U	100 U	100 U
Cadmium	ug/l	2.7	0.105	0.08	0.109	0.05 U	0.05 U	3.93	3.92	1.82	6.16
Chromium	ug/l	50	5 U	5 U	5 U	8.1	9.3	5 U	5 U	5.9	6.4
Chromium, Hexavalent (Cr6+)	ug/l	25						4.89	4.95	5.74	
Cobalt	ug/l	3.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Copper	ug/l	87	2.9	2.4	4.9	4	5.3	2.6	2.7	2.2	3.1
Lead	ug/l	10	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Mercury	ug/l	0.29						0.005 U	0.0052	0.005 U	
Molybdenum	ug/l	70	0.98	1.06	1.14	1 	1.17	1.5	1.52	1.61	1.53
Nickel Solonium	ug/l	100	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Selenium	ug/l	10	0.8	0.68	 0 E I I	0.86	 0 E I I	1.24	1.2	1.38	1.25
Silver	ug/l	1.5 2	0.5 U 0.1 U	0.5 U	0.5 U 0.1 U	0.5 U 0.1 U	0.5 U 0.1 U	0.5 U	0.5 U	0.5 U 0.1 U	0.5 U 0.1 U
Thallium Uranium	ug/l ug/l	20	1.43	0.1 U 1.47	1.4	1.59	1.84	0.1 U 0.9	0.1 U 0.91	0.1 U 0.77	1.06
Vanadium		6.2	5 U	5 U	5 U	5 U	1.84 5 U	5 U	5 U	5 U	5 U
Zinc	ug/l ug/l	1100	19	18	16	10 U	10 U	11	11	10 U	15
Polyaromatic Hydrocarbons (PAHs)	ug/t	1100	17	10	10	100	100	1 11		100	l 13
1-Methylnaphthalene	ug/l	3.2						0.02 U	0.02 U	0.02 U	
2-(1-)Methylnaphthalene	ug/t ug/l	3.2						0.02 U	0.02 U	0.02 U	
	ug/t										
	un/l	3.2						() () 2 ()	()()/11	() () 2 ()	
2-Methylnaphthalene	ug/l	3.2 4.1						0.02 U	0.02 U	0.02 U	
2-Methylnaphthalene Acenaphthene	ug/l	4.1						0.02 U	0.02 U	0.02 U	
2-Methylnaphthalene											

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane,

Sample De Samp	Guelph, Ontario		Location		MW110B		MM	111	I	MA	1112	
Part				DLID		MW110B			DI ID1		_	MW112
Sample Type			•									
Seric Depth 13.56 13.66 13.66 13.66 13.66 13.66 13.56 13.56 13.56 3.33 5.33			•									1
Name												
Analyte			-									
Restocks/princere			•	15.39	15.39	15.39	15.39	15.39	8.38	8.38	8.38	8.38
Benrodicypree Ug/L 0.01	, and the second	Units	Table 2 SCS "									
Remotify Demotify D	Benzo(a)anthracene	ug/l	1						0.02 U	0.02 U	0.02 U	
Bernote Langer	Benzo(a)pyrene	ug/l	0.01						0.01 U	0.01 U	0.01 U	
Bernote Unif 0.1	Benzo(b)fluoranthene	ug/l							0.02 U	0.02 U	0.02 U	
Chrysene	Benzo(g,h,i)perylene	ug/l	0.2						0.02 U	0.02 U	0.02 U	
Diemorachamthracene Ug/R 0.2 0.2 U 0.02 U 0.02 U	Benzo(k)fluoranthene	ug/l	0.1						0.02 U	0.02 U	0.02 U	
Fluorantene	Chrysene	ug/l	0.1						0.02 U	0.02 U	0.02 U	
Fluoren	Dibenzo(a,h)anthracene	ug/l	0.2						0.02 U	0.02 U	0.02 U	
Independ (1,23-Cd)Pyrene Ug/l 0.2 0.02 U 0.02 U 0.02 U 0.05 U	Fluoranthene	ug/l	0.41						0.02 U	0.02 U	0.02 U	
Naphthalene	Fluorene	ug/l	120						0.02 U	0.02 U	0.02 U	
Naphthalene	Indeno(1,2,3-Cd)Pyrene	ug/l	0.2						0.02 U	0.02 U	0.02 U	
PREPARTITION	Naphthalene		11						0.05 U	0.05 U	0.05 U	
Pyrone Spring S	Phenanthrene								0.02 U	0.02 U	0.02 U	
Service Toluene, Ethylbenzene, Xylenes (STEX)	Pyrene		4.1									
Bernene Ug/L 5	Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)	<u> </u>				•						•
Ethybenzene	Benzene	ua/l	5						0.5 U	0.5 U	0.5 U	
Toluene												
Sydenes, 0 ug/l NV 0.3 U 0.3 U 0.3 U Sydenes, m. 8 D ug/l NV 0.4 U 0.4 U 0.4 U Sydenes, Total ug/l 300 0.5 U 0.5 U 0.5 U Sydenes, Total ug/l 300 0.5 U 0.5 U 0.5 U Sydenes, Total Ug/l 300 0.5 U 0.5 U 0.5 U Sydenes, Total Ug/l NV 0.5 U 0.5 U 0.5 U Sydenes, Total Ug/l NV												
Sydens, No. No		1										
Wylenes, Total Ug/I 300 0.5 U 0.	· ·											
Petroleum Hydrocarbons (PHCs) None NV 1U 1U 1U 1U 1U												
Chrom. to baseline at nC50		ug/t	300			<u>l</u>			0.5 0	0.5 0	0.5 0	<u>l</u>
Petroleum Hydrocarbons F1 (C6-C10) ug/l 750 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 25 U 2		None	NV						111	111	1 11	
Petroleum Hydrocarbons F1 (C6-C10)												
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	-											
Petroleum Hydrocarbons F2 (C10-C16)												
Petroleum Hydrocarbons F3 (C16-C34) ug/l NV 250 U 250 U 250 U Petroleum Hydrocarbons F3 (C16-C34) ug/l 500 250 U 250 U 250 U 250 U Petroleum Hydrocarbons F4 (C34-C50) ug/l NV 250 U 250 U 250 U Petroleum Hydrocarbons (C6 to C50) ug/l NV 370 U 370 U 370 U Petroleum Hydrocarbons (C6 to C50) ug/l NV 370 U 370 U 370 U Petroleum Hydrocarbons (VOCS) Petroleum												
Petroleum Hydrocarbons F3 (C16-C34)	·											
Petroleum Hydrocarbons F4 (C34-C50)												
Total Petroleum Hydrocarbons (C6 to C50)												
Volatile Organic Carbons (VOCs) 1,1,1,2-Tetrachloroethane ug/l 200 0.5 U 0.5 U 0.5 U 1,1,1-Trichloroethane ug/l 200 0.5 U 0.5 U 0.5 U 1,1,1-Trichloroethane ug/l 1 0.5 U 0.5 U 0.5 U 1,1,2-Trichloroethane ug/l 4.7 0.5 U 0.5 U 0.5 U 1,1,2-Trichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 0.5 U 1,1-Dichloroethane ug/l 1.6 0.5 U 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 3 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 3 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 1.6 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 5		1										
1,1,1,2-Tetrachloroethane		ug/t	INV						3700	3700	3700	
1,1,1-Trichloroethane ug/l 200 0.5 U 0.5 U 0.5 U 1,1,2-Trichloroethane ug/l 1 0.5 U 0.5 U 0.5 U 1,1,2-Trichloroethane ug/l 4.7 0.5 U 0.5 U 0.5 U 1,1-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,1-Dichloroethane ug/l 1.6 0.5 U 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 3 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 1.6 0.5 U 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 1.6 <td< td=""><td><u> </u></td><td>/1</td><td>4.4</td><td></td><td></td><td>I</td><td></td><td></td><td>0.5.11</td><td>0.511</td><td>0.5.11</td><td>ı</td></td<>	<u> </u>	/1	4.4			I			0.5.11	0.511	0.5.11	ı
1,1,2,2-Tetrachloroethane	, , ,	J.										
1,1,2-Trichloroethane ug/l 4,7 0.5 U 0.5 U 0.5 U 1,1-Dichloroethane ug/l 1,6 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U	, ,											
1,1-Dichloroethane ug/l 5 0.5 U 0.5 U 0.5 U 1,1-Dichloroethane 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U <td>, , ,</td> <td></td> <td>·</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	, , ,		·									
1,1-Dichloroethene ug/l 1.6 0.5 U 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 0.2 0.5 U 0.5 U 0.5 U 0.5 U 1,2-Dichloroptopane 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U <t< td=""><td>· ·</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	· ·											
1,2-Dibromoethane ug/l 0.2 0.2 U 0.2 U 0.2 U 1,2-Dichlorobenzene ug/l 3 0.5 U 0.5 U 0.5 U 0.5 U 1,2-Dichlorobenzene ug/l 1.6 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U 0.5 U	,											
1,2-Dichlorobenzene ug/l 3 0.5 U 0.5 U 0.5 U 1,2-Dichloroethane ug/l 1.6 0.5 U 0.5 U 0.5 U 0.5 U 1,2-Dichloropropane ug/l 5 0.5 U 0.5 U 0.5 U 1,3-Dichloropropane ug/l 59 0.5 U 0.5 U 0.5 U 0.5 U 1,3-Dichloropropane ug/l 0.5 0.5 U 0.5 U 0.5 U 0.5 U 1,3-Dichloropropene ug/l 0.5 0.5 U 0.5 U 0.5 U 0.5 U 1,4-Dichlorobenzene ug/l 1800 0.5 U 0.5 U 0.5 U 0.5 U 2-Butanone ug/l 1800 -	, and the second											
1,2-Dichloroethane ug/l 1.6 0.5 U 0.5 U 0.5 U 1,2-Dichloropropane ug/l 5 0.5 U 0.5 U 0.5 U 1,3-Dichloropenee ug/l 0.5 0.5 U 0.5 U 0.5 U 1,4-Dichloropenee ug/l 1 0.5 U 0.5 U 0.5 U 1,4-Dichloropenee ug/l 1 0.5 U 0.5 U 0.5 U 1,4-Dichloropenee ug/l 1 0.5 U 0.5 U 0.5 U 2-Butanone ug/l 1800 20 U 20 U 20 U 4-Methyl-2-Pentanone ug/l 640		1										
1,2-Dichloropropane ug/l 5 0.5 U 0.5 U 0.5 U 1,3-Dichloropropene ug/l 59	,	1										
1,3-Dichlorobenzene ug/l 59 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>												
1,3-Dichloropropene ug/l 0.5 0.5 U 0.5 U 0.5 U 1,4-Dichlorobenzene ug/l 1 0.5 U 0.5 U 0.5 U 2-Butanone ug/l 1800 20 U 20 U 20 U 20 U 4-Methyl-2-Pentanone ug/l 640 20 U 20 U 20 U 20 U Acetone ug/l 2700 30 U 30 U 30 U 30 U Bromodichloromethane ug/l 16 2 U 2 U 2 U 2 U Bromomethane ug/l 0.89 <												
1,4-Dichlorobenzene ug/l 1 0.5 U 0.5 U 0.5 U 2-Butanone ug/l 1800 20 U 20 U 20 U 20 U 4-Methyl-2-Pentanone ug/l 640 20 U 20 U 20 U 20 U Acetone ug/l 2700 30 U 30 U 30 U 30 U Bromodichloromethane ug/l 16 2 U 2 U 2 U 2 U Bromomethane ug/l 0.89 0.5 U 0.5 U 0.5 U		1										
2-Butanone ug/l 1800 20 U 20 U 20 U 4-Methyl-2-Pentanone ug/l 640 20 U 20 U 20 U Acetone ug/l 2700 30 U 30 U 30 U 30 U Bromodichloromethane ug/l 16 2 U 2 U 2 U 2 U Bromomethane ug/l 0.89 0.5 U 0.5 U 0.5 U	, ,											
4-Methyl-2-Pentanone ug/l 640 20 U 20 U 20 U Acetone ug/l 2700 30 U 30 U 30 U 30 U Bromodichloromethane ug/l 16 2 U 2 U 2 U 2 U Bromoform ug/l 25 5 U 5 U 5 U 5 U Bromomethane ug/l 0.89 0.5 U 0.5 U 0.5 U		1	•									
Acetone ug/l 2700 30 U 30 U 30 U Bromodichloromethane ug/l 16 2 U 2 U 2 U 2 U Bromoform ug/l 25 5 U 5 U 5 U 5 U Bromomethane ug/l 0.89 0.5 U 0.5 U 0.5 U	2-Butanone	1										
Bromodichloromethane ug/l 16 2 U 2 U 2 U 2 U Bromoform ug/l 25 5 U 5 U 5 U 5 U Bromomethane ug/l 0.89 0.5 U 0.5 U 0.5 U												
Bromoform ug/l 25 5U 5U 5U 5U Bromomethane ug/l 0.89 0.5U 0.5U 0.5U 0.5U	Acetone											
Bromomethane ug/L 0.89 0.5 U 0.5 U 0.5 U	Bromodichloromethane											
	Bromoform											
Carbon tetrachloride ug/l 0.79 0.2 U 0.2 U 0.2 U	Bromomethane											
	Carbon tetrachloride	ug/l	0.79						0.2 U	0.2 U	0.2 U	

Table 6-8. Summary of Analytical Results in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		Location		MW110B		MW	111		MW	113	
		Sample ID	DUP	MW110B	MW110B	MW111	MW111	DUP1	MW113	MW113	MW113
		Sample Date	11/26/2019	11/26/2019	12/20/2019	11/26/2019	12/19/2019	4/15/2020	4/15/2020	4/22/2020	4/29/2020
		Sample Type	FD	N	N	N	N	N	FD	N	N
		Start Depth	13.56	13.56	13.56	13.56	13.56	5.33	5.33	5.33	5.33
		End Depth	15.39	15.39	15.39	15.39	15.39	8.38	8.38	8.38	8.38
Analyte	Units	Table 2 SCS ^a									
Chlorobenzene	ug/l	30						0.5 U	0.5 U	0.5 U	
Chlorodibromomethane	ug/l	25						2 U	2 U	2 U	
Chloroform	ug/l	2.4						3.2	3.2	4.4	
cis-1,2-Dichloroethene	ug/l	1.6	-	-				0.5 U	0.5 U	0.5 U	
cis-1,3-Dichloropropene	ug/l	NV	-	-				0.3 U	0.3 U	0.3 U	
Dichlorodifluoromethane	ug/l	590	-	-				2 U	2 U	2 U	
Dichloromethane	ug/l	50	-	-				5 U	5 U	5 U	
Methyl tert-butyl ether (MTBE)	ug/l	15	-	-				2 U	2 U	2 U	
n-Hexane	ug/l	51						0.5 U	0.5 U	0.5 U	
Styrene	ug/l	5.4	-	-				0.5 U	0.5 U	0.5 U	-
Tetrachloroethene	ug/l	1.6	-	-				0.5 U	0.5 U	0.5 U	-
trans-1,2-Dichloroethene	ug/l	1.6	-	-				0.5 U	0.5 U	0.5 U	-
trans-1,3-Dichloropropene	ug/l	NV						0.3 U	0.3 U	0.3 U	
Trichloroethylene	ug/l	1.6						0.5 U	0.5 U	0.5 U	
Trichlorofluoromethane	ug/l	150						5 U	5 U	5 U	
Vinyl Chloride	ug/l	0.5						0.5 U	0.5 U	0.5 U	

^a MECP (2011) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition, residential/parkland/institutional land use, coarse soil texture.

Source: Ontario Ministry of the Environment, Parks and Conservation (MECP). 2011. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act, Ministry of the Environment. April 15.

Notes

Bold denote positive detection at or above reportable detection limit
Shading denotes detected results that exceeds the applicable standard
U = Analyte not detected
ug/L = microgram(s) per litre
ug/g = microgram per gram
mg/L = milligram(s) per litre
mS/cm = millisiemen per centimeter
SAR = Sodiuim Absorption Ratio
ID = identification
NV = no value available in applicable standards
--- = Analyte not analyzed

Table 6-9. Maximum Detected Concentrations in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Analyte Group	Analyte Name	Maximum Detected Concentration	Unit	Location	Sample Name	Sample Type	Sample Date	Start Depth (mbgs)	End Depth (mbgs)	SDG
ABNs	Bis (2-ethylhexyl) phthalate	2.3	ug/l	MW104	DUP2-WG-090519-FD	FD	9/5/2019	5.94	8.99	L2343122
Inorganics	Chloride (Cl)	9610	mg/l	MW102B	MW102B-WG-090619-N	N	9/6/2019	8.84	10.36	L2343122
Inorganics	Cyanide, Weak Acid Dissociable	8.4	ug/l	MW102A	MW102A-WG-121919-N	N	12/19/2019	2.13	5.18	L2399298
Inorganics	Sodium	6100000	ug/l	MW102B	MW102B-WG-090619-N	N	9/6/2019	8.84	10.36	L2343122
Metals	Antimony	0.43	ug/l	MW108	MW108-WG-090519-N	N	9/5/2019	6.71	9.75	L2343122
Metals	Arsenic	1.2	ug/l	MW103	DUP1-WG-090519-FD	FD	9/5/2019	2.13	5.18	L2343122
Metals	Barium	744	ug/l	MW110A	MW110A-WG-122019-N	N	12/20/2019	5.33	8.38	L2399298
Metals	Boron	240	ug/l	MW111	MW111-WG-121919-N	N	12/19/2019	13.56	15.39	L2399298
Metals	Cadmium	6.16	ug/l	MW113	MW113-WG-042920-N	N	4/29/2020	5.33	8.38	L2441806
Metals	Chromium	9.3	ug/l	MW111	MW111-WG-121919-N	N	12/19/2019	13.56	15.39	L2399298
Metals	Chromium, Hexavalent (Cr6+)	5.74	ug/l	MW113	MW113-WG-042220-N	N	4/22/2020	5.33	8.38	L2439186
Metals	Cobalt	1.4	ug/l	MW103	MW103-WG-121819-N	N	12/18/2019	2.13	5.18	L2399298
Metals	Copper	5.3	ug/l	MW111	MW111-WG-121919-N	N	12/19/2019	13.56	15.39	L2399298
Metals	Lead	0.72	ug/l	MW109	MW109-WG-090519-N	N	9/5/2019	7.32	10.36	L2343122
Metals	Mercury	0.0054	ug/l	MW107	DUP3-WG-090619-FD	FD	9/6/2019	5.33	8.38	L2343122
Metals	Molybdenum	17.6	ug/l	MW104	MW104-WG-090519-N	N	9/5/2019	5.94	8.99	L2343122
Metals	Nickel	3.44	ug/l	MW108	MW108-WG-090519-N	N	9/5/2019	6.71	9.75	L2343122
Metals	Selenium	4.66	ug/l	MW101	MW101-WG-090519-N	N	9/5/2019	5.71	8.76	L2343122
Metals	Thallium	0.12	ug/l	MW103	MW103-WG-090519-N	N	9/5/2019	2.13	5.18	L2343122
Metals	Uranium	5.79	ug/l	MW103	MW103-WG-121819-N	N	12/18/2019	2.13	5.18	L2399298
Metals	Vanadium	0.76	ug/l	MW108	MW108-WG-090519-N	N	9/5/2019	6.71	9.75	L2343122
Metals	Zinc	19	ug/l	MW110B	DUP-WG-112619-FD	FD	11/26/2019	13.56	15.39	L2387876
VOCs	1,1-Dichloroethane	0.56	ug/l	MW108	MW108-WG-121919-N	N	12/19/2019	6.71	9.75	L2399298
VOCs	Bromodichloromethane	7.1	ug/l	MW101	MW101-WG-092419-N	N	9/24/2019	5.71	8.76	L2352720
VOCs	Chlorodibromomethane	5.4	ug/l	MW101	MW101-WG-122019-N	N	12/20/2019	5.71	8.76	L2399298
VOCs	Chloroform	12	ug/l	MW101	MW101-WG-090519-N	N	9/5/2019	5.71	8.76	L2343122

Notes:

μg/l = microgram per gram

ABN - acid, base, and neutral compounds

BTEX = benzene, toluene, ethylbenzene, and xylenes

F = fraction

FD = field duplicate

mbgs = metres below ground surface

mS/cm = milliSiemens per centimetre

N = normal sample

ORP = other regulated parameters

PAH = polycyclic aromatic hydrocarbons

PCB = polychlorinated biphenyls

PHC = petroleum hydrocarbons

SAR = sodium adsorption ratio

SDG = sample delivery group

VOC = volatile organic compounds

Table 6-10a. Preliminary COC Screening in Groundwater

Phase Two Environmental Site Assesment, 55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Contaminant ^a	Parameter Group		No. of Samples	Max Detected Concentration	Max Nondetect Concentration	Maximum Measured Concentration ^b	Units	Minimum Detection Limit	Applicable SCS ^c	Other Criteria ^d	No. of Detects Exceeding Table 2 SCS	No. of Nondetects Exceeding Table 2 SCS	No. of Detected with no Table 2 SCS	No. of Nondetects with no Table 2 SCS	(Rationale)
Cadmium	Metal	15	36	6.16	0.5	6.16	μg/L	0.01	2.7		7				Yes, included (Max > Table 2 SCS)
1,1'-Biphenyl	ABN	1	4		0.4	0.4	μg/L	0.4	0.5						No, excluded (Max < or = Table 2 SCS)
1,2,4-Trichlorobenzene	ABN	1	4		0.4	0.4	μg/L	0.4	70						No, excluded (Max < or = Table 2 SCS)
2,4 & 2,6-Dinitrotoluene	ABN	1	4		0.57	0.57	μg/L	0.566	5						No, excluded (Max < or = Table 2 SCS)
2,4-Dimethylphenol	ABN	1	4		0.5	0.5	μg/L	0.5	59						No, excluded (Max < or = Table 2 SCS)
2,4-Dinitrophenol	ABN	1	4		1	1	μg/L	1	10						No, excluded (Max < or = Table 2 SCS)
3,3'-Dichlorobenzidine	ABN	1	4		0.4	0.4	μg/L	0.4	0.5						No, excluded (Max < or = Table 2 SCS)
4-Chloroaniline	ABN	1	4		0.4	0.4	μg/L	0.4	10						No, excluded (Max < or = Table 2 SCS)
Bis (2-chloroethyl) ether	ABN	1	4		0.4	0.4	μg/L	0.4	5						No, excluded (Max < or = Table 2 SCS)
Bis (2-Chloroisopropyl) ether	ABN	1	4		0.4	0.4	μg/L	0.4	120						No, excluded (Max < or = Table 2 SCS)
Bis (2-ethylhexyl) phthalate	ABN	1	4	2.3	2	2.3	μg/L	2	10						No, excluded (Max < or = Table 2 SCS)
Diethylphthalate	ABN	1	4		0.2	0.2	μg/L	0.2	38						No, excluded (Max < or = Table 2 SCS)
Dimethylphthalate	ABN	1	4		0.2	0.2	μg/L	0.2	38						No, excluded (Max < or = Table 2 SCS)
Phenol	ABN	1	4		0.5	0.5	μg/L	0.5	890						No, excluded (Max < or = Table 2 SCS)
Benzene	BTEX	11	27		0.5	0.5	μg/L	0.5	5						No, excluded (Max < or = Table 2 SCS)
Ethylbenzene	BTEX	11	27		0.5	0.5	μg/L	0.5	2.4						No, excluded (Max < or = Table 2 SCS)
Toluene	BTEX	11	27		0.5	0.5	μg/L	0.5	24						No, excluded (Max < or = Table 2 SCS)
Xylenes, Total	BTEX	11	27		0.5	0.5	μg/L	0.5	300						No, excluded (Max < or = Table 2 SCS)
Chloride (Cl)	Inorganics	11	25	9610		9610	mg/L	2.5	790		19				No, excluded (See Table 6-10b)
Cyanide, Weak Acid Dissociable	Inorganics	11	25	8.4	2	8.4	μg/L	2	66						No, excluded (Max < or = Table 2 SCS)
Sodium	Inorganics	15	22	6100000		6100000	μg/L	500	490000		18				No, excluded (See Table 6-10b)
Antimony	Metal	15	22	0.43	10	10	μg/L	0.1	6			3			No, excluded (See Table 6-10b)
Arsenic	Metal	15	22	1.2	10	10	μg/L	0.1	25						No, excluded (Max < or = Table 2 SCS)
Barium	Metal	15	36	744		744	μg/L	0.1	1000						No, excluded (Max < or = Table 2 SCS)
Beryllium	Metal	15	36		10	10	μg/L	0.1	4			7			No, excluded (See Table 6-10b)
Boron	Metal	15	36	240	1000	1000	μg/L	10	5000						No, excluded (Max < or = Table 2 SCS)
Chromium	Metal	15	36	9.3	50	50	μg/L	0.5	50						No, excluded (Max < or = Table 2 SCS)
Chromium, Hexavalent (Cr6+)	Metal	11	25	5.74	0.5	5.74	μg/L	0.5	25						No, excluded (Max < or = Table 2 SCS)
Cobalt	Metal	15	36	1.4	10	10	μg/L	0.1	3.8			7			No, excluded (See Table 6-10b)
Copper	Metal	15	36	5.3	20	20	μg/L	0.2	87						No, excluded (Max < or = Table 2 SCS)
Lead	Metal	15	36	0.72	5	5	μg/L	0.05	10						No, excluded (Max < or = Table 2 SCS)
Mercury	Metal	11	25	0.0054	0.005	0.0054	μg/L	0.005	0.29						No, excluded (Max < or = Table 2 SCS)
Molybdenum	Metal	15	36	17.6	5	17.6	μg/L	0.05	70						No, excluded (Max < or = Table 2 SCS)
Nickel	Metal	15	36	3.44	50	50	μg/L	0.5	100						No, excluded (Max < or = Table 2 SCS)
Selenium	Metal	15	22	4.66	5	5	μg/L	0.05	10						No, excluded (Max < or = Table 2 SCS)
Silver	Metal	15	36		5	5	μg/L	0.05	1.5			7			No, excluded (See Table 6-10b)
Thallium	Metal	15	36	0.12	1	1	μg/L	0.01	2						No, excluded (Max < or = Table 2 SCS)
Uranium	Metal	15	36	5.79	1	5.79	μg/L	0.01	20						No, excluded (Max < or = Table 2 SCS)
Vanadium	Metal	15	36	0.76	50	50	μg/L	0.5	6.2			8			No, excluded (See Table 6-10b)
Zinc	Metal	15	36	19	100	100	μg/L	1	1100						No, excluded (Max < or = Table 2 SCS)
1+2-Methylnaphthalenes	PAH	11	25		0.028	0.028	μg/L	0.02	3.2						No, excluded (Max < or = Table 2 SCS)
Acenaphthene	PAH	11	25		0.02	0.02	μg/L	0.02	4.1						No, excluded (Max < or = Table 2 SCS)
Acenaphthylene	PAH	11	25		0.02	0.02	μg/L	0.02	1						No, excluded (Max < or = Table 2 SCS)
Anthracene	PAH	11	25		0.02	0.02	μg/L	0.02	2.4						No, excluded (Max < or = Table 2 SCS)
Benzo(a)anthracene	PAH	11	25		0.02	0.02	μg/L	0.02	1						No, excluded (Max < or = Table 2 SCS)
Benzo(a)pyrene	PAH	11	25		0.01	0.01	μg/L	0.01	0.01						No, excluded (Max < or = Table 2 SCS)
Benzo(b)fluoranthene	PAH	11	25		0.02	0.02	μg/L	0.02	0.1						No, excluded (Max < or = Table 2 SCS)
Benzo(g,h,i)perylene	PAH	11	25		0.02	0.02	μg/L	0.02	0.2						No, excluded (Max < or = Table 2 SCS)
Benzo(k)fluoranthene	PAH	11	25		0.02	0.02	μg/L	0.02	0.1						No, excluded (Max < or = Table 2 SCS)
Chrysene	PAH	11	25		0.02	0.02	μg/L	0.02	0.1						No, excluded (Max < or = Table 2 SCS)
Dibenzo(a,h)anthracene	PAH	11	25		0.02	0.02	μg/L	0.02	0.1						No, excluded (Max < or = Table 2 SCS)
Fluoranthene	PAH	11	25		0.02	0.02	μg/L μg/L	0.02	0.41						No, excluded (Max < or = Table 2 SCS)
Fluorene	PAH	11	25		0.02	0.02	μg/L	0.02	120						No, excluded (Max < or = Table 2 SCS)
Indeno(1,2,3-Cd)Pyrene	PAH	11	25		0.02	0.02	μg/L μg/L	0.02	0.2						No, excluded (Max < or = Table 2 SCS)
Naphthalene	PAH	11	25		0.02	0.02	μg/L μg/L	0.02	11						No, excluded (Max < or = Table 2 SCS) No, excluded (Max < or = Table 2 SCS)

Table 6-10a. Preliminary COC Screening in Groundwater

Phase Two Environmental Site Assesment, 55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

	Parameter	No. of	No. of	Max Detected	Max Nondetect	Maximum Measured		Minimum Detection	Applicable	Other	No. of Detects Exceeding	No. of Nondetects Exceeding	No. of Detected with no Table 2	with no Table	
Contaminant ^a	Group	Stations	Samples	Concentration	Concentration	Concentration b	Units	Limit	SCS ^c	Criteria ^d	Table 2 SCS	Table 2 SCS	SCS	2 SCS	(Rationale)
Pyrene	PAH	11	25		0.02	0.02	μg/L	0.02	4.1						No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F1 (C6-C10)	PHCs	11	25		25	25	μg/L	25	750						No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F2 (C10-C16)	PHCs	11	25		100	100	μg/L	100	150						No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F3 (C16-C34)	PHCs	11	25		250	250	μg/L	250	500						No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F4 (C34-C50)	PHCs	11	25		250	250	μg/L	250	500						No, excluded (Max < or = Table 2 SCS)
1,1,1,2-Tetrachloroethane	VOC	11	27		0.5	0.5	μg/L	0.5	1.1						No, excluded (Max < or = Table 2 SCS)
1,1,1-Trichloroethane	VOC	11	27		0.5	0.5	μg/L	0.5	200						No, excluded (Max < or = Table 2 SCS)
1,1,2,2-Tetrachloroethane	VOC	11	27		0.5	0.5	μg/L	0.5	1						No, excluded (Max < or = Table 2 SCS)
1,1,2-Trichloroethane	VOC	11	27		0.5	0.5	μg/L	0.5	4.7						No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethane	VOC	11	27	0.56	0.5	0.56	μg/L	0.5	5						No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethene	VOC	11	27		0.5	0.5	μg/L	0.5	1.6						No, excluded (Max < or = Table 2 SCS)
1,2-Dibromoethane	VOC	11	27		0.2	0.2	μg/L	0.2	0.2						No, excluded (Max < or = Table 2 SCS)
1,2-Dichlorobenzene	VOC	11	27		0.5	0.5	μg/L	0.5	3						No, excluded (Max < or = Table 2 SCS)
1,2-Dichloroethane	VOC	11	27		0.5	0.5	μg/L	0.5	1.6						No, excluded (Max < or = Table 2 SCS)
1,2-Dichloropropane	VOC	11	27		0.5	0.5	μg/L	0.5	5						No, excluded (Max < or = Table 2 SCS)
1,3-Dichlorobenzene	VOC	11	27		0.5	0.5	μg/L	0.5	59						No, excluded (Max < or = Table 2 SCS)
1,3-Dichloropropene	VOC	11	27		0.5	0.5	μg/L	0.5	0.5						No, excluded (Max < or = Table 2 SCS)
1,4-Dichlorobenzene	VOC	11	27		0.5	0.5	μg/L	0.5	1						No, excluded (Max < or = Table 2 SCS)
2-Butanone	VOC	11	27		20	20	μg/L	20	1800						No, excluded (Max < or = Table 2 SCS)
4-Methyl-2-Pentanone	VOC	11	27		20	20	μg/L	20	640						No, excluded (Max < or = Table 2 SCS)
Acetone	VOC	11	27		30	30	μg/L	30	2700						No, excluded (Max < or = Table 2 SCS)
Bromodichloromethane	VOC	11	27	7.1	2	7.1	μg/L	2	16						No, excluded (Max < or = Table 2 SCS)
Bromoform	VOC	11	27		5	5	μg/L	5	25						No, excluded (Max < or = Table 2 SCS)
Bromomethane	VOC	11	27		0.5	0.5	μg/L	0.5	0.89						No, excluded (Max < or = Table 2 SCS)
Carbon tetrachloride	VOC	11	27		0.2	0.2	μg/L	0.2	0.79						No, excluded (Max < or = Table 2 SCS)
Chlorobenzene	VOC	11	27		0.5	0.5	μg/L	0.5	30						No, excluded (Max < or = Table 2 SCS)
Chlorodibromomethane	VOC	11	27	5.4	2	5.4	μg/L	2	25						No, excluded (Max < or = Table 2 SCS)
Chloroform	VOC	11	27	12	1	12	μg/L	1	2.4		12				No, excluded (See Table 6-10b)
cis-1,2-Dichloroethene	VOC	11	27		0.5	0.5	μg/L	0.5	1.6						No, excluded (Max < or = Table 2 SCS)
Dichlorodifluoromethane	VOC	11	27		2	2	μg/L	2	590						No, excluded (Max < or = Table 2 SCS)
Dichloromethane	VOC	11	27		5	5	μg/L	5	50						No, excluded (Max < or = Table 2 SCS)
Methyl tert-butyl ether (MTBE)	VOC	11	27		2	2	μg/L	2	15						No, excluded (Max < or = Table 2 SCS)
n-Hexane	VOC	11	27		0.5	0.5	μg/L	0.5	51						No, excluded (Max < or = Table 2 SCS)
Styrene	VOC	11	27		0.5	0.5	μg/L	0.5	5.4						No, excluded (Max < or = Table 2 SCS)
Tetrachloroethene	VOC	11	27		0.5	0.5	μg/L	0.5	1.6						No, excluded (Max < or = Table 2 SCS)
trans-1,2-Dichloroethene	VOC	11	27		0.5	0.5	μg/L	0.5	1.6						No, excluded (Max < or = Table 2 SCS)
Trichloroethylene	VOC	11	27		0.5	0.5	μg/L	0.5	1.6						No, excluded (Max < or = Table 2 SCS)
Trichlorofluoromethane	VOC	11	27		5	5	μg/L	5	150						No, excluded (Max < or = Table 2 SCS)
Vinyl Chloride	VOC	11	27		0.5	0.5	μg/L	0.5	0.5						No, excluded (Max < or = Table 2 SCS)

^{a.} The representative maximum concentration (the maximum concentration of similar analytes or total concentration of multiple isomers) is used for comparison.

Bold parameters are identified as COCs

Grey shaded parameters have been reviewed further. Refer to Table 6-10b.

Blue shaded parameters have been reviewed further as the concentrations greater than the SCS are likely due to introduced water. Refer to Table 6-10b.

-- = no value or not applicable MECP = Ontario Ministry of the Environment, Conservation and Parks

> = greater than No. = number

< = less than PAH = polycyclic aromatic hydrocarbon

μg/L = microgram(s) per litrePHC = petroleum hydrocarbonABN = acid base neutral compoundsSCS = Site Condition StandardBTEX = benzene, toluene, ethylbenzene, and xylenesVOC = volatile organic compound

COC = contaminant of concern

^{b.} Column lists the greater of the maximum detected concentration and the maximum nondetect concentration.

c Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards in a Potale Ground Water Condition, for Residential/ Parkland/ Institutional Property Type Use and Coarse Textured Soils (MECP, 2011a).

Notes:

Table 6-10b. Rationale for the Removal of Groundwater COCs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Parameter				
Group	Parameter	Category	Sample(s)	Comment/Rationale
METALS	Antimony	Parameter with existing SCS but RL exceedances only	Three samples (MW100, MW102A, MW102B) had RL exceedances of the SCS in September 2019 (COA L2343122)	One sample collected from each location listed had RL exceedances for antimony in September 2019. All other samples collected on the Phase Two Property had nondetected concentrations of the parameter, with the exception of one sample (MW108) that had detected concentrations of antimony, approximatlely an order-of-magnitude less than the SCS. Laboratory reports indicated that these detection limits were adjusted as the samples required dilution due to high concentrations of other target analytes (in this case, assumed to be sodium and chloride).
				Based on the available information, this parameter was determined to likely not be present at concentrations exceeding the SCS; therefore, at the discretion of the QPESA, was not considered to be a COC for the Phase Two Property.
METALS	Beryllium Cobalt Silver	Parameters with existing SCS but RL exceedances only	Seven samples (MW100 x 2, MW102A x 2, MW102B x 2, MW110A) had RL exceedances of the SCS in September 2019 (COA L2343122) and December 2019 (COA L2399298).	Two samples collected from MW100, MW102A and MW102B, and one sample collected from MW110A had RL exceedances for each of the noted metals in September and December 2019. All other samples collected on the Phase Two Property had nondetected concentrations of the noted metals, with the exception of three samples (September and December 2019 at MW108 and December 2019 at MW103) that had detected concentrations of cobalt approximatlely 2.5 times less than the SCS. Laboratory reports indicated that these detection limits were adjusted as the samples required dilution due to high concentrations of other target analytes (in this case, assumed to be sodium and chloride).
				Based on the available information, these parameters were determined to likely not be present at concentrations exceeding the SCS; therefore, at the discretion of the QPESA, were not considered to be COCs for the Phase Two Property.
METALS	Vanadium	Parameter with existing SCS but RL exceedances only	Eight samples (MW100 x 2, MW102A x 2, MW102B x 2, MW110A x 2) had RL exceedances of the SCS in September 2019 (COA L2343122) or November 2019 (COA L2387876), and December 2019 (COA L2399298).	Two samples collected from each location listed had RL exceedances for vanadium in September or November 2019, and December 2019. All other samples collected on the Phase Two Property had nondetected concentrations of the noted metal, with the exception of one sample (MW108) that had a detected concentration of vanadium approximatlely an order-of-magnitude less than the SCS. Laboratory reports indicated that these detection limits were adjusted as the samples required dilution due to high concentrations of other target analytes (in this case, assumed to be sodium and chloride).

Notes:

The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.

 μ g/L = micrograms per gram RL = laboratory reporting limit

COA = certificate of analysis PCA = potentially contaminating activity

COC = contaminant of concern QPESA = MECP Qualified Person for Environmental Site Assessment

O. Reg. = Ontario Regulation SCS = Site Condition Standards

Table 6-10c. Rationale for the Exclusion of Groundwater COCs

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Parameter Group	Parameter	Category	Sample(s)	Comment/Rationale
INORGANICS	Chloride Sodium	Parameter associated with salt that has been applied to surfaces for the safety of vehicular or pedestrian traffic.	Nineteen chloride samples and eighteen sodium samples from across the Site.	The presence of sodium and chloride in groundwater at the Site are related to the application of salt on the parking lot surface during winter conditions. The application of salt has been used for the safety of vehicular and pedestrian traffic. Under Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act should a substance be applied to surfaces for hte safety of vehicularor pedestrian traffic under conditions of snow or ice or both. Therefore, at the discretion of the QPESA, sodium and chloride were not considered to be COCs for the Phase Two Property.
VOC	Chloroform	Parameter with "introduced" exceedance; exemptions in Section 49.1 of O. Reg. 153/04	Twelve samples (MW101 x 3, MW104, MW105, MW107 x 4, MW113 x 3) had a detected exceedance of the SCS from September and/or December 2019, or April 2020.	The initial groundwater samples collected in early September 2019 from each location listed (or April 2020 for MW113) after drilling/bedrock coring, purging, and well development had concentrations of chloroform ranging from 3.2 μg/L to 12 μg/L, greater than the SCS of 2.4 μg/L. The source of the chloroform exceedance was believed to be related to the municipal water that was used during the bedrock coring process. Jacobs has encountered a similar issue during a previous drilling program in the City of Guelph in 2018. For that project, two samples, one from the water truck and one from the water truck hose that was used during the coring activities, were analyzed for VOCs. All VOCs were non detect in the municipal water water samples apart from bromodichloromethane (12.5 to 12.9 μg/L), dibromochloromethane (11.5 to 11.8 μg/L), and chloroform (9.8 to 10.1 μg/L). These analytes are trihalomethanes that are typically present in municipally-treated water substantiating that municipal water introduced during drilling activities as the likely source of trihalomethanes in groundwater. For the current project, all VOCs were nondetect in groundwater apart from these same three analytes, and from one sample for 1,1-dichloroethane. Additional groundwater samples were collected in late September 2019 and December 2019 from the two locations with the highest reported chloroform concentrations (MW101 and MW107). Slightly lower concentrations of chloroform were detected in the second set of samples and in the third set of samples. MW113 was installed in April 2020, and three samples have been collected (two normal and one field duplicate) with concentrations of chloroform ranging from 3.2 to 4.4 μg/L. Based on the available information, the QPESA determined there was a discharge of drinking water (within the meaning of the Safe Drinking Water Act, 2002), resulting in chloroform exceeding the SCS. Under Section 49.1 of the revised O. Reg. 153/O4, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act.

Notes:

The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.

μg/L = micrograms per gram PCA = potentially contaminating activity

COC = contaminant of concern QPESA = MECP Qualified Person for Environmental Site Assessment

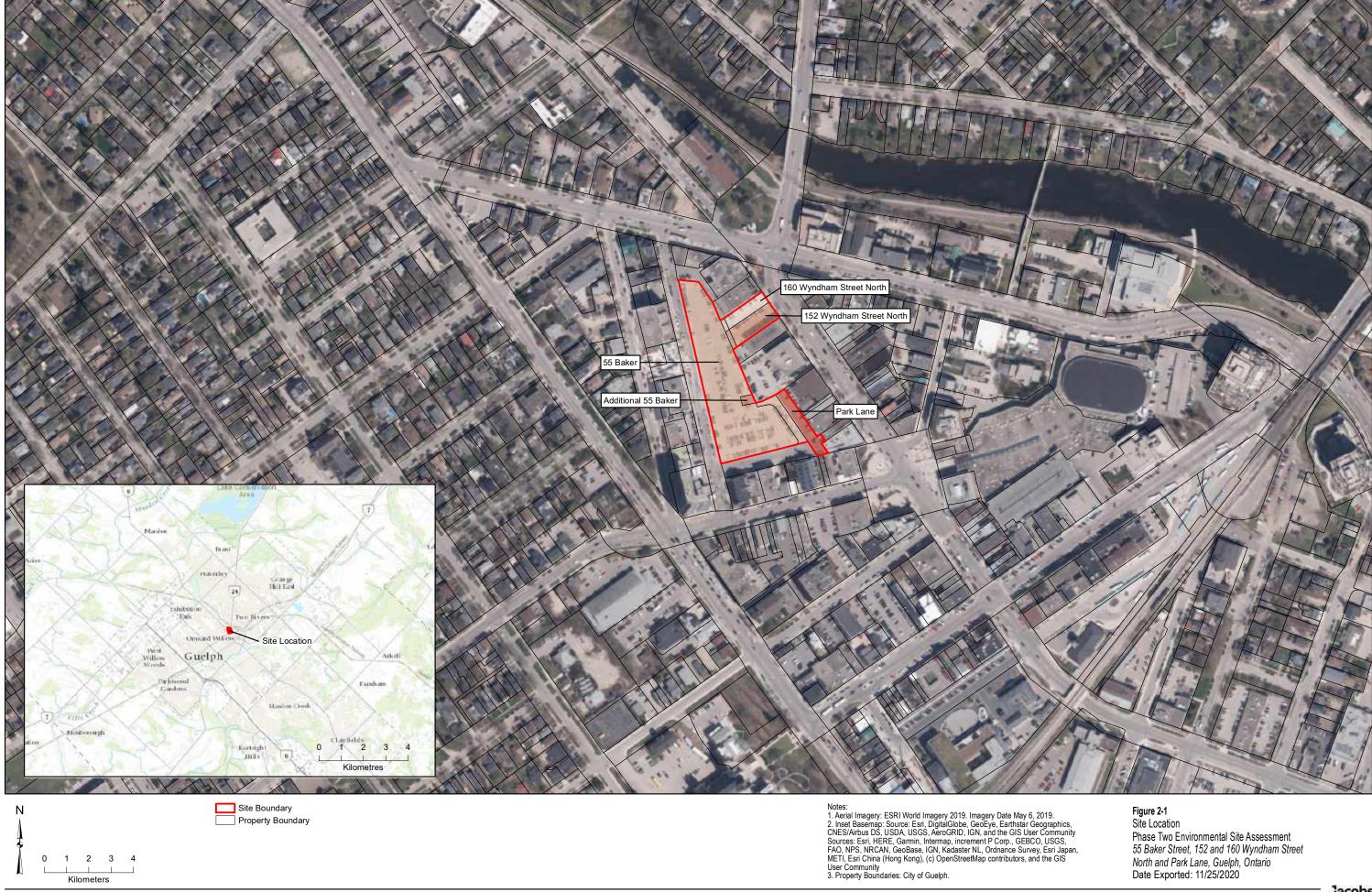
O. Reg. = Ontario Regulation SCS = Site Condition Standards
RL = laboratory reporting limit VOC = volatile organic compound

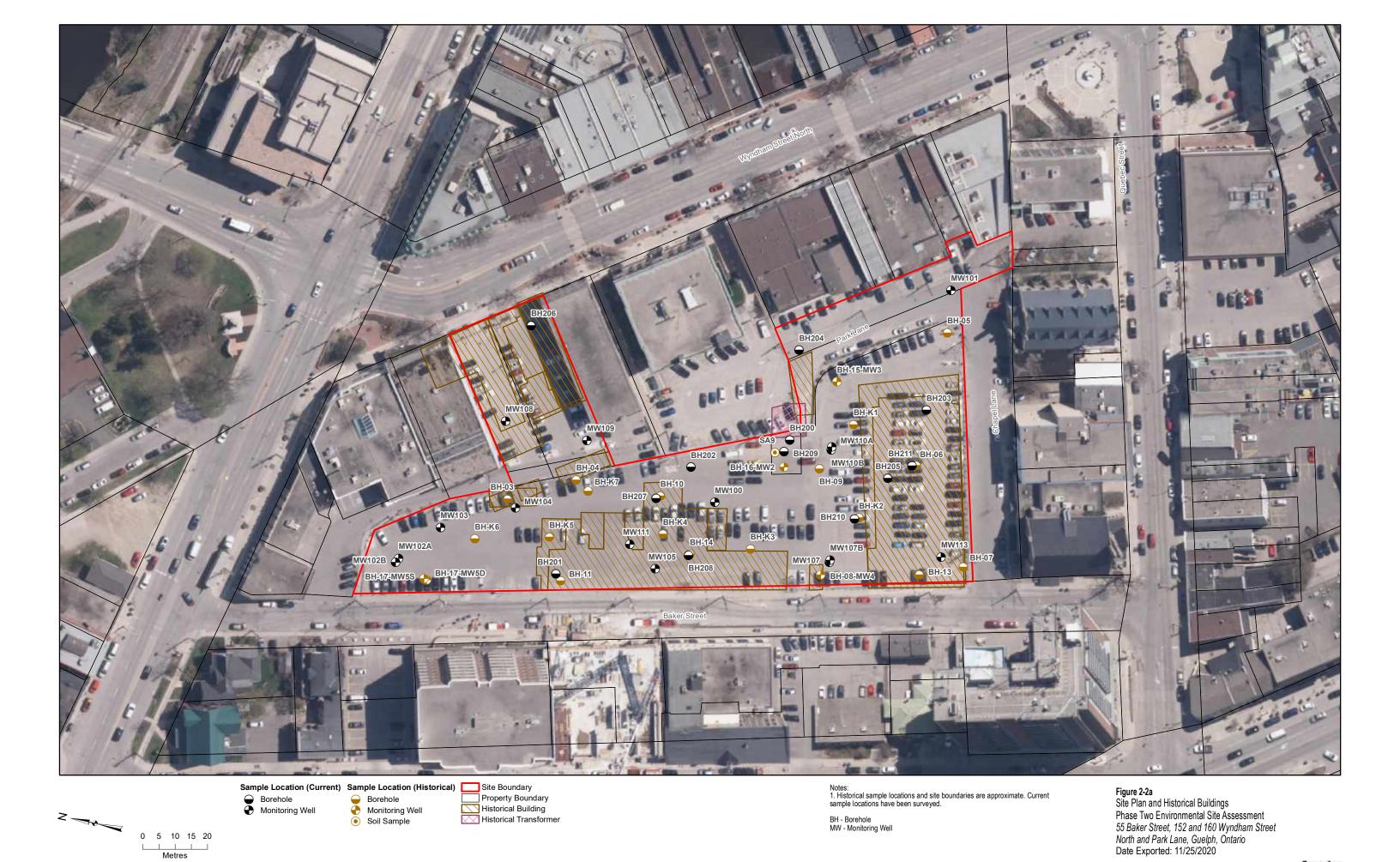
Table 6-10d. Contaminants of Concern Identified in Groundwater

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

Analytical Group	Analyte
Metals	Cadmium

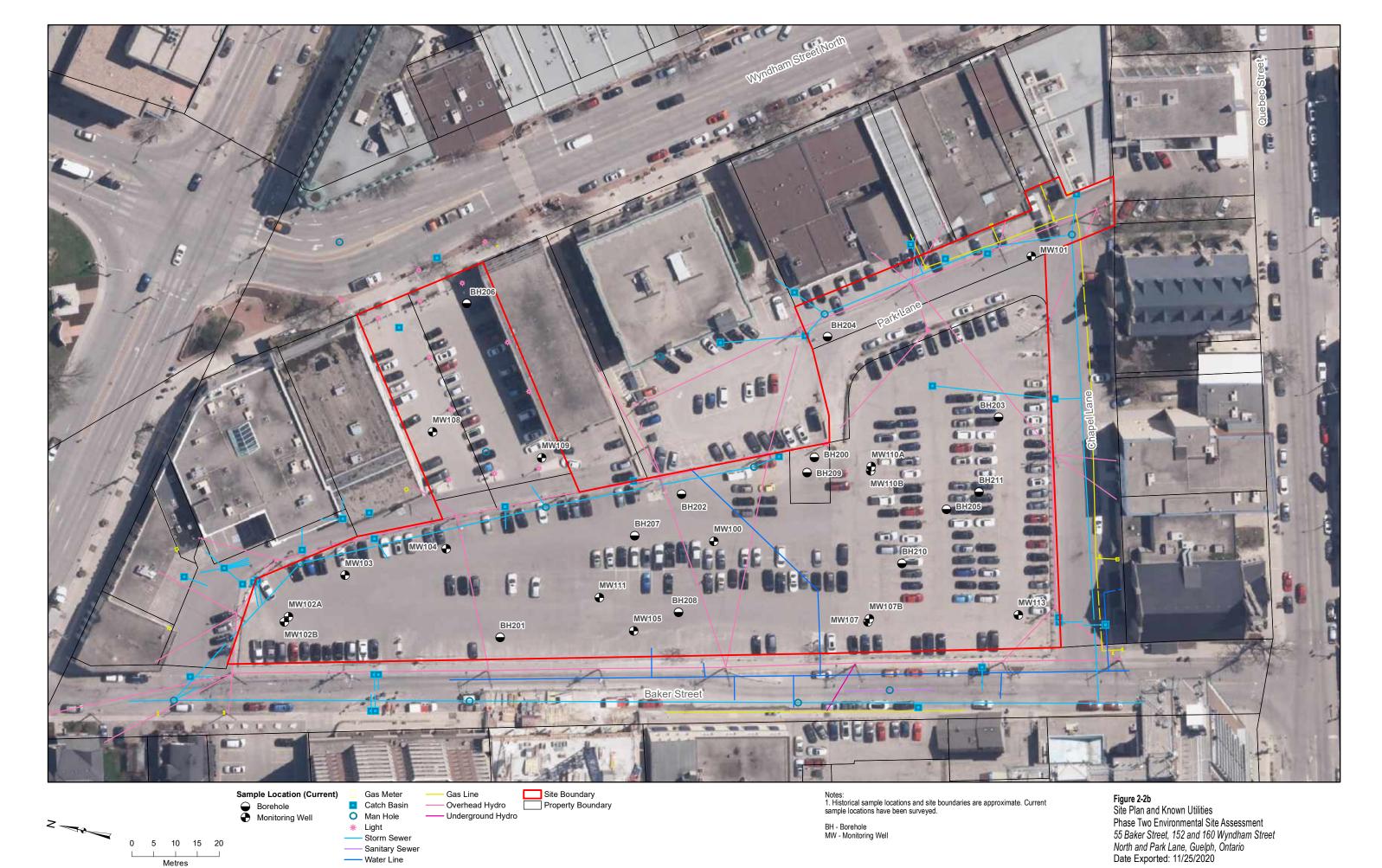
Figures

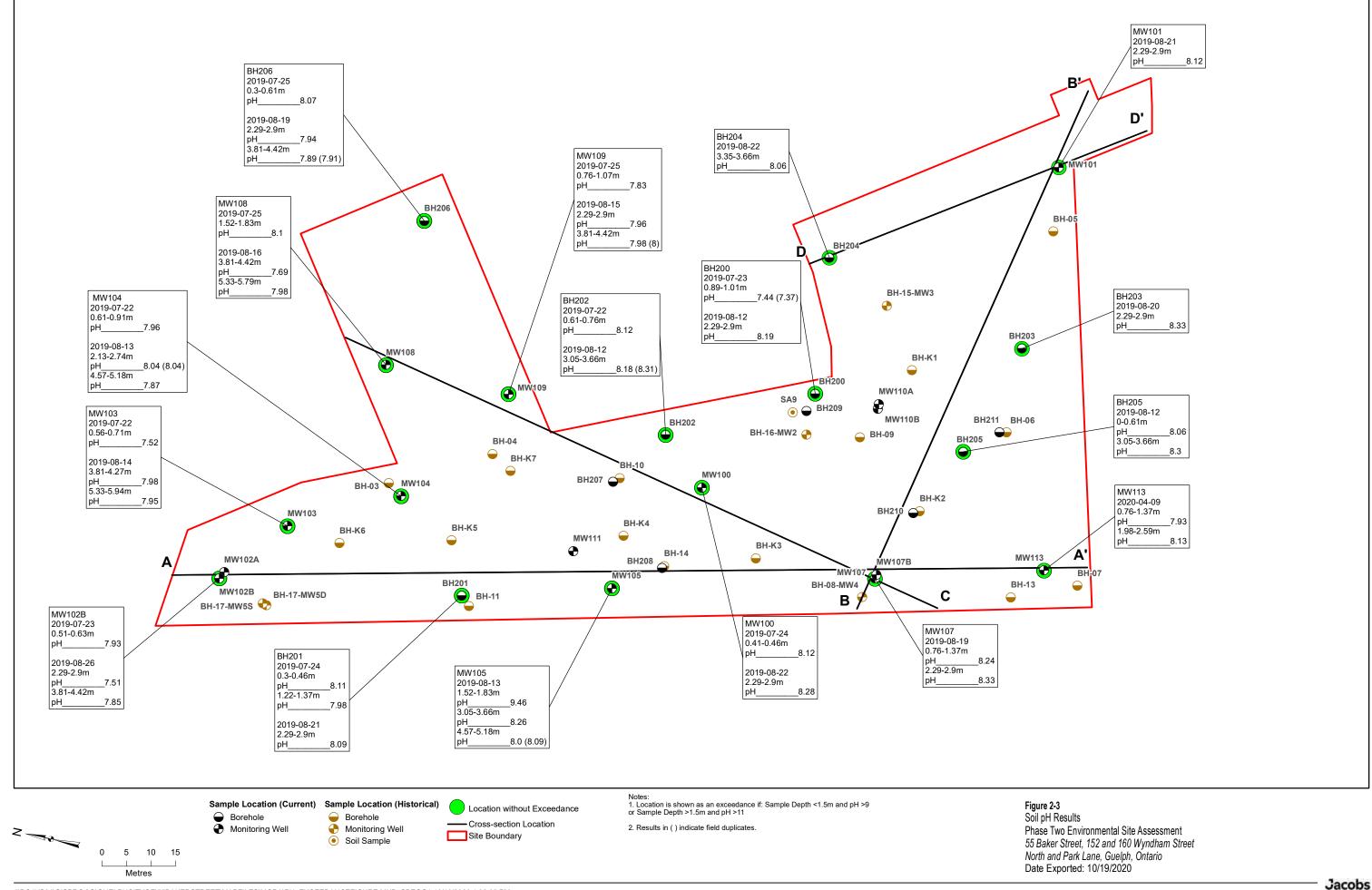


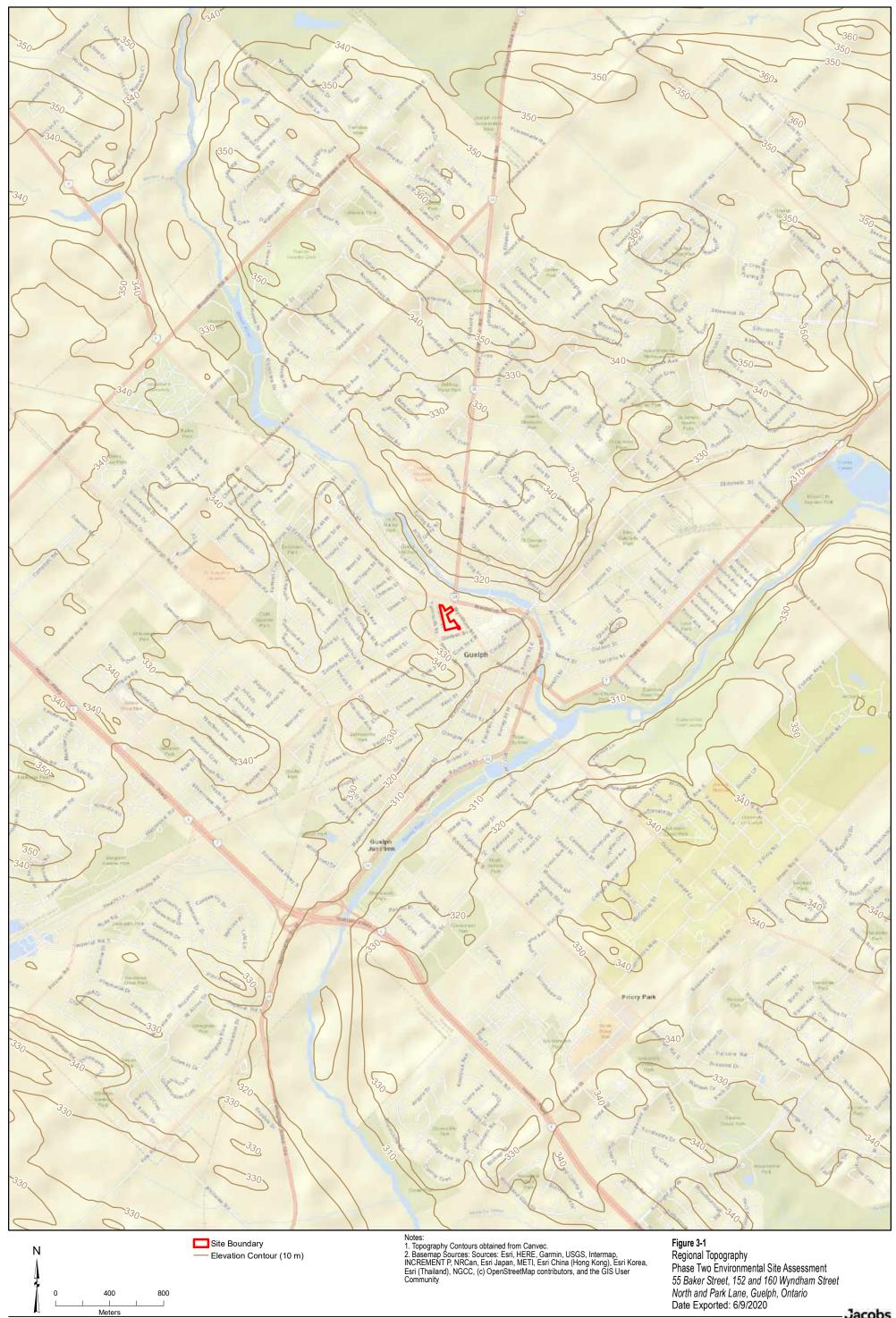


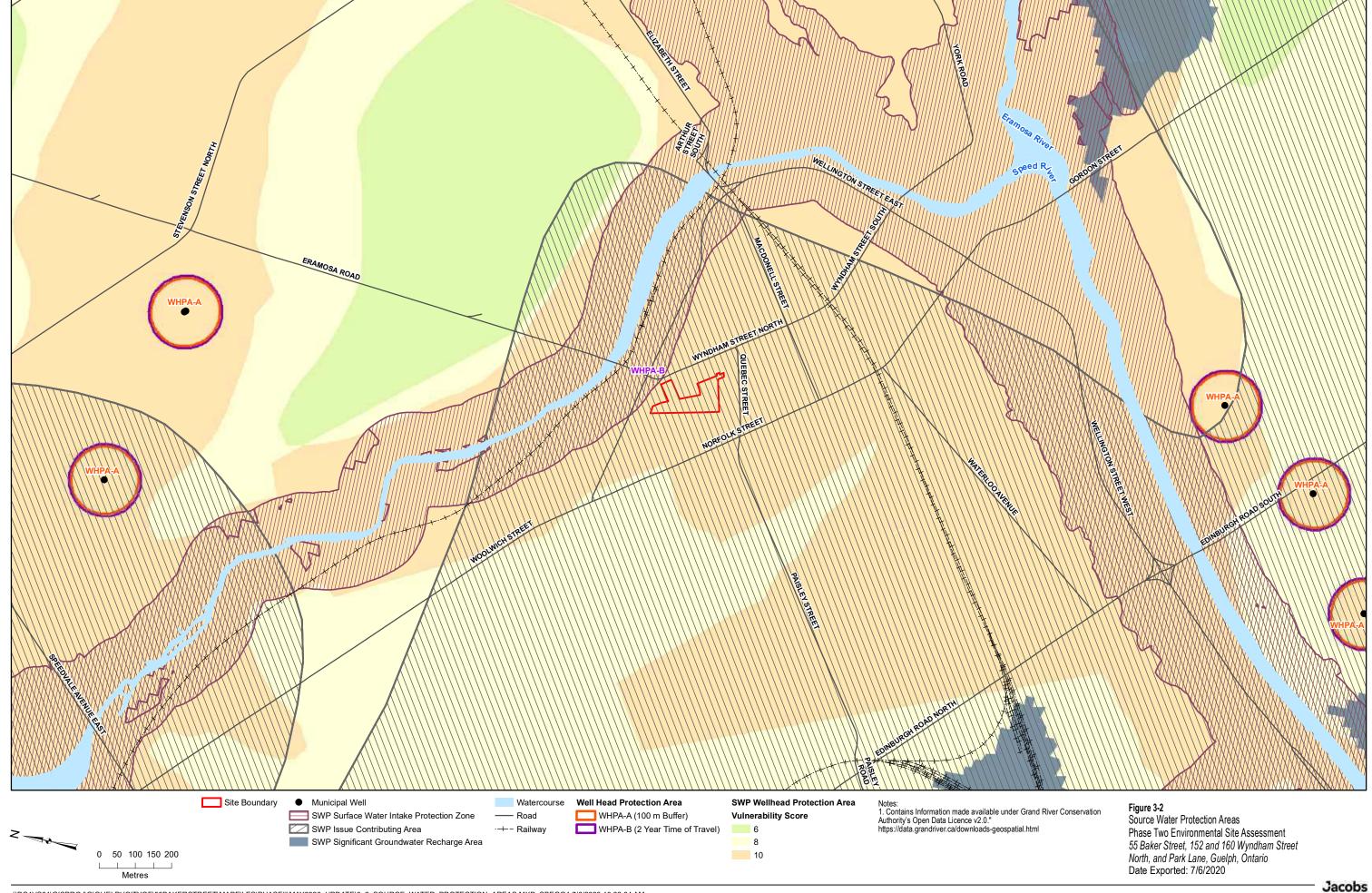
Jacobs

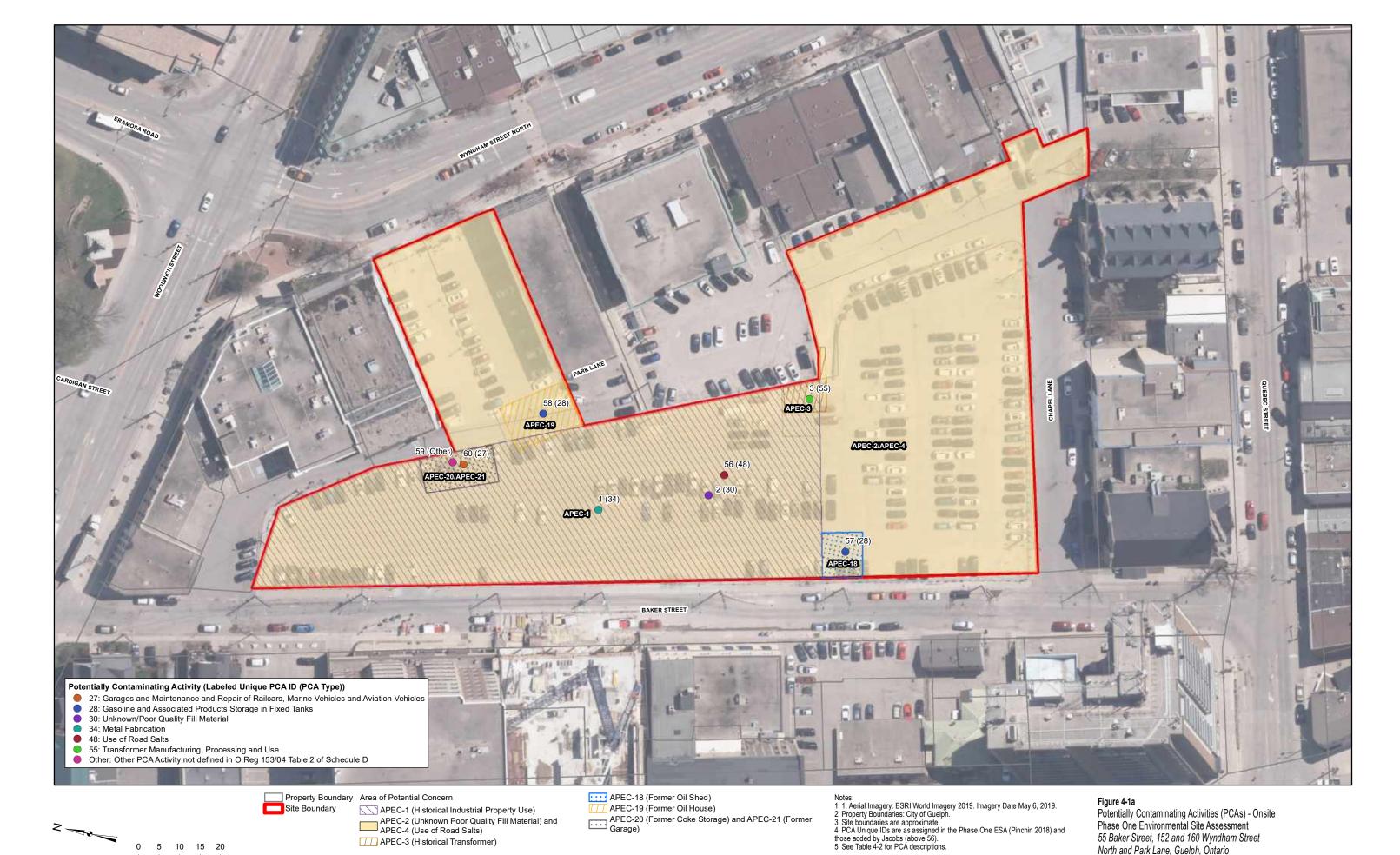
Metres







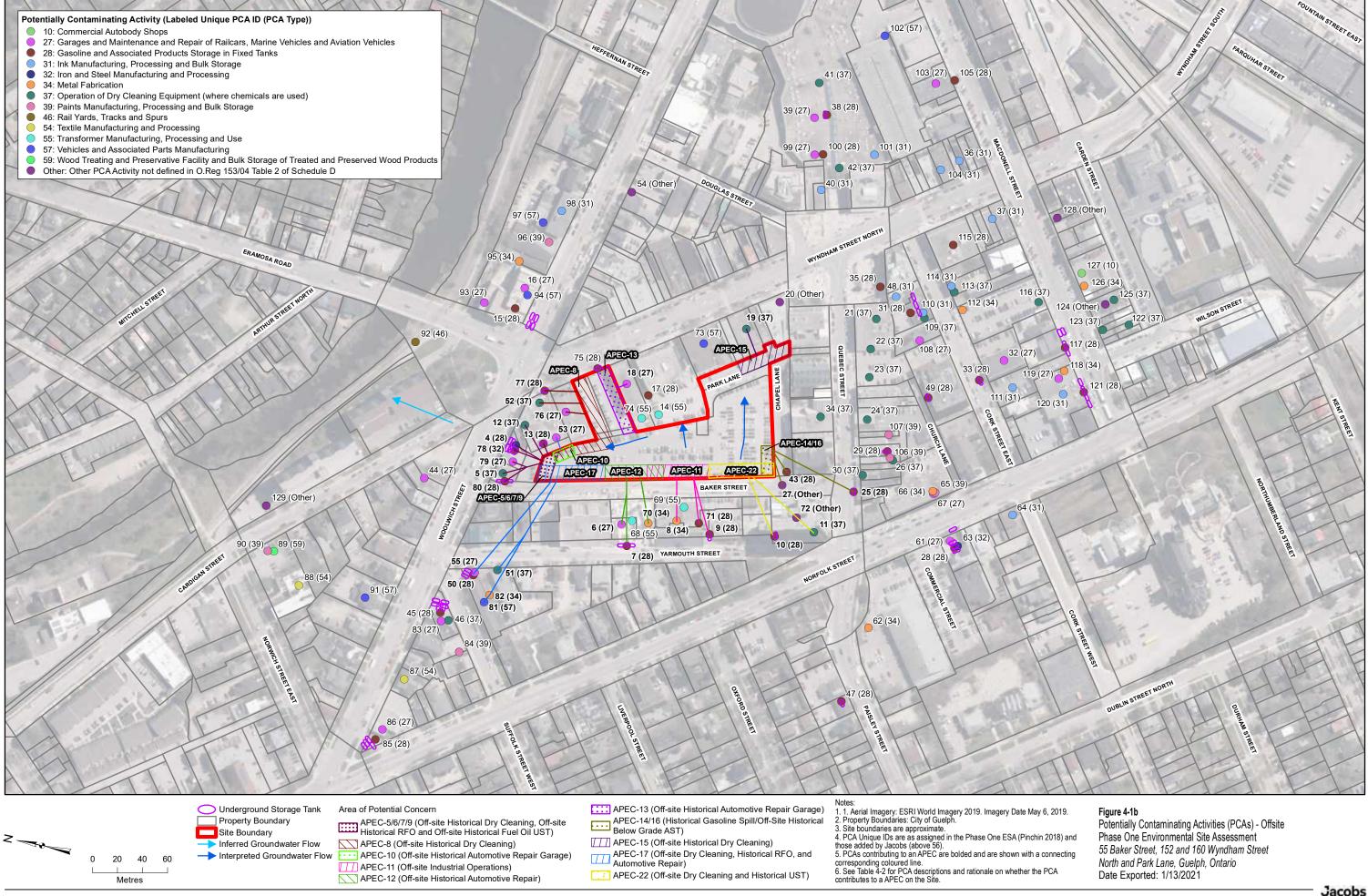


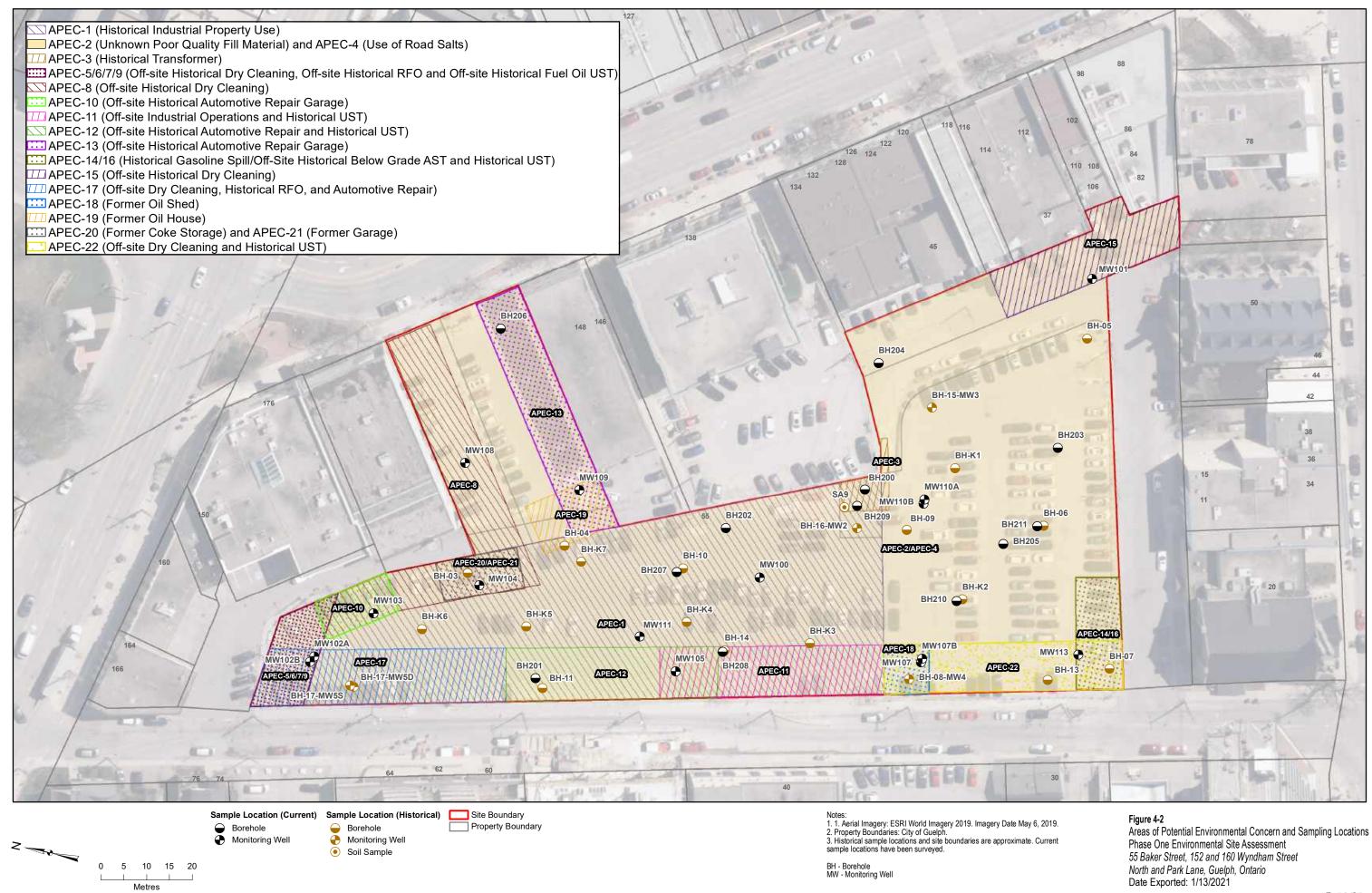


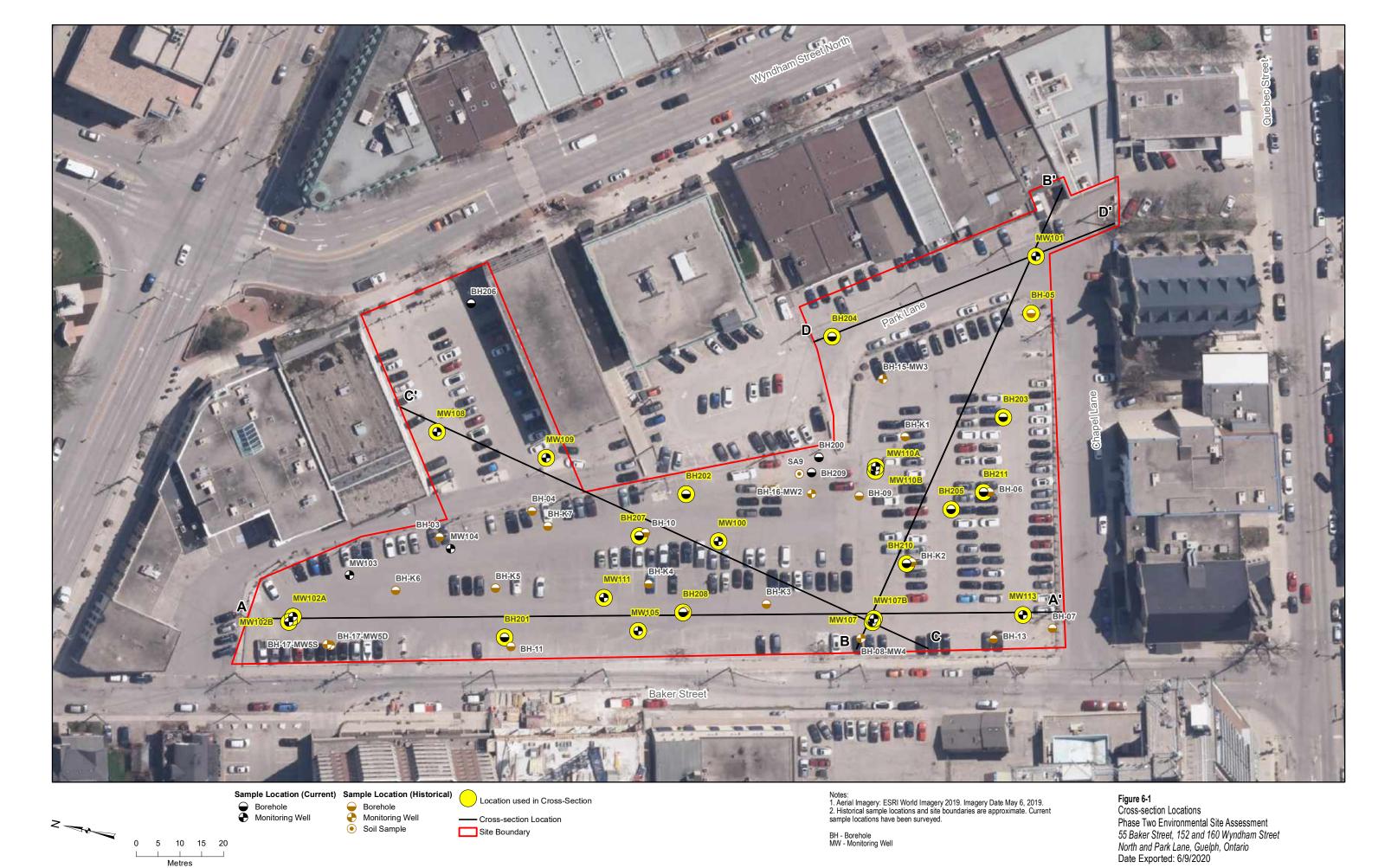
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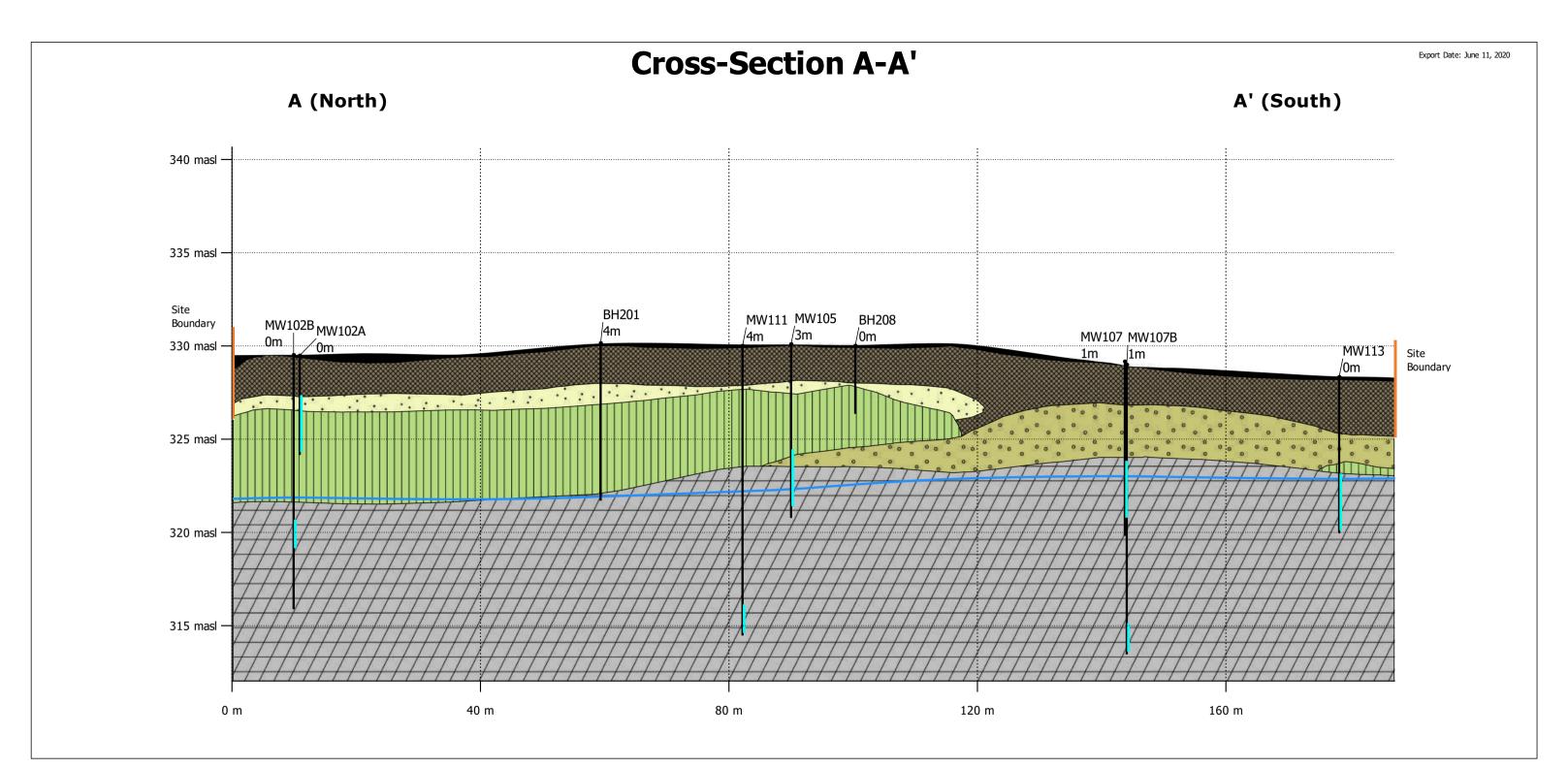
Date Exported: 1/13/2021

Metres









Vertical exaggeration: 3x

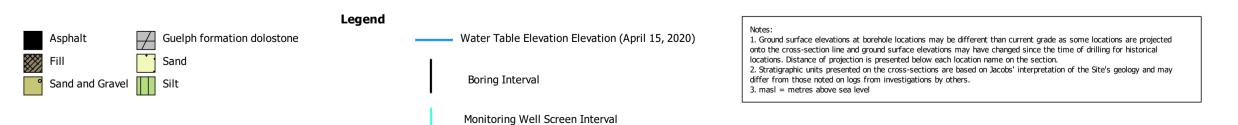


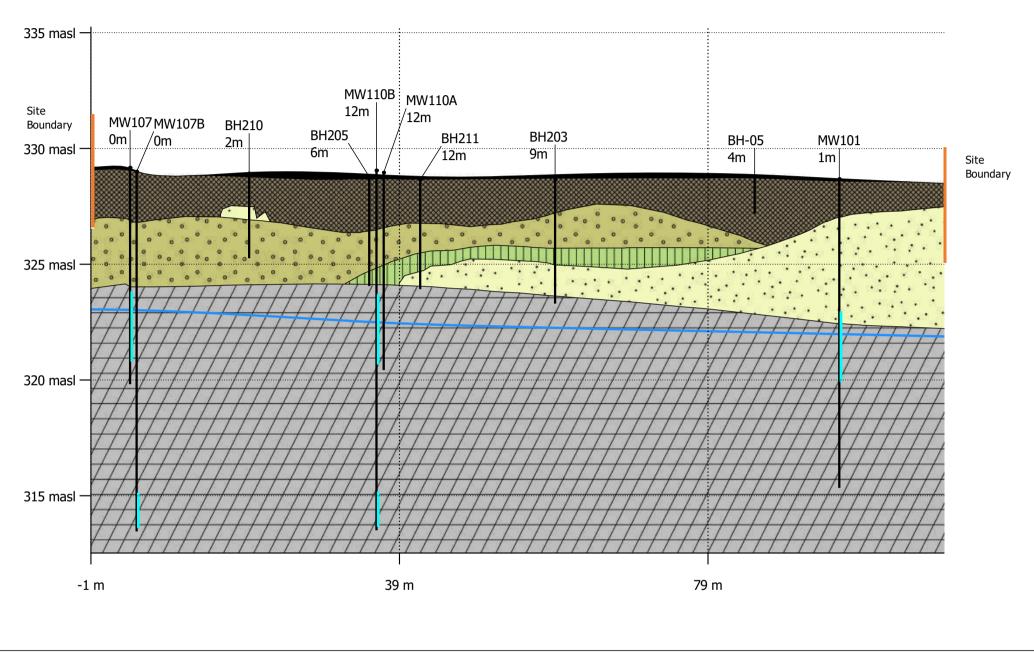
Figure 6-1a

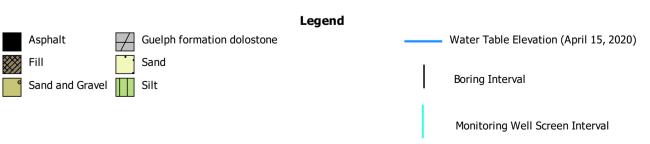
Geologic Conceptual Cross-Section A-A'
Phase Two Environmental Site Assessment
55 Baker Street, 152 and 160 Wyndham Street
North and Park Lane, Guelph, Ontario



Cross-Section B-B'







Vertical exaggeration: 3x

Notes:

 Ground surface elevations at borehole locations may be different than current grade as some locations are projected onto the cross-section line and ground surface elevations may have changed since the time of drilling for historical locations. Distance of projection is presented below each location name on the section.

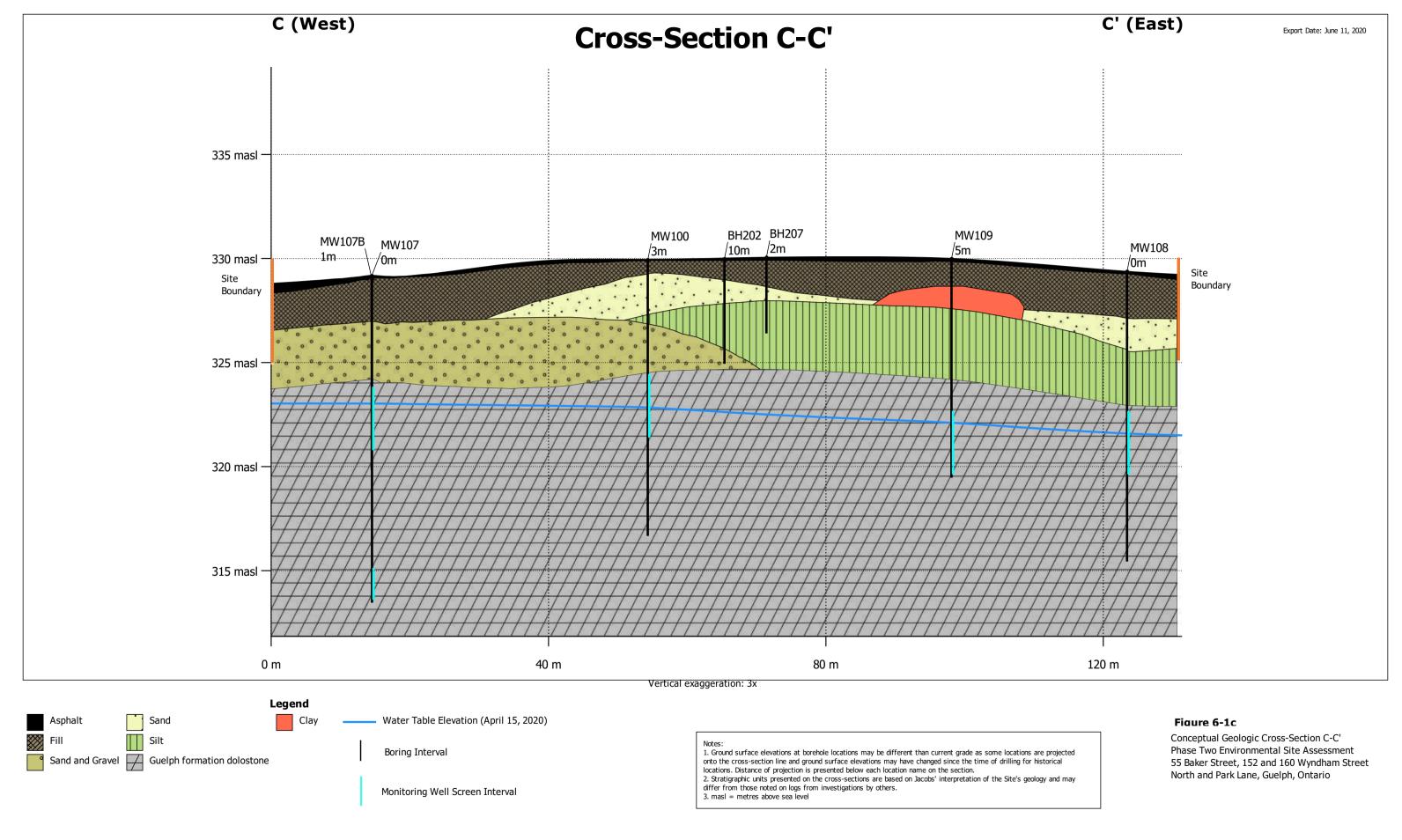
2. Stratigraphic units presented on the cross-sections are based on Jacobs' interpretation of the Site's geology and may differ from those noted on logs from investigations by others.

3. masl = metres above sea level

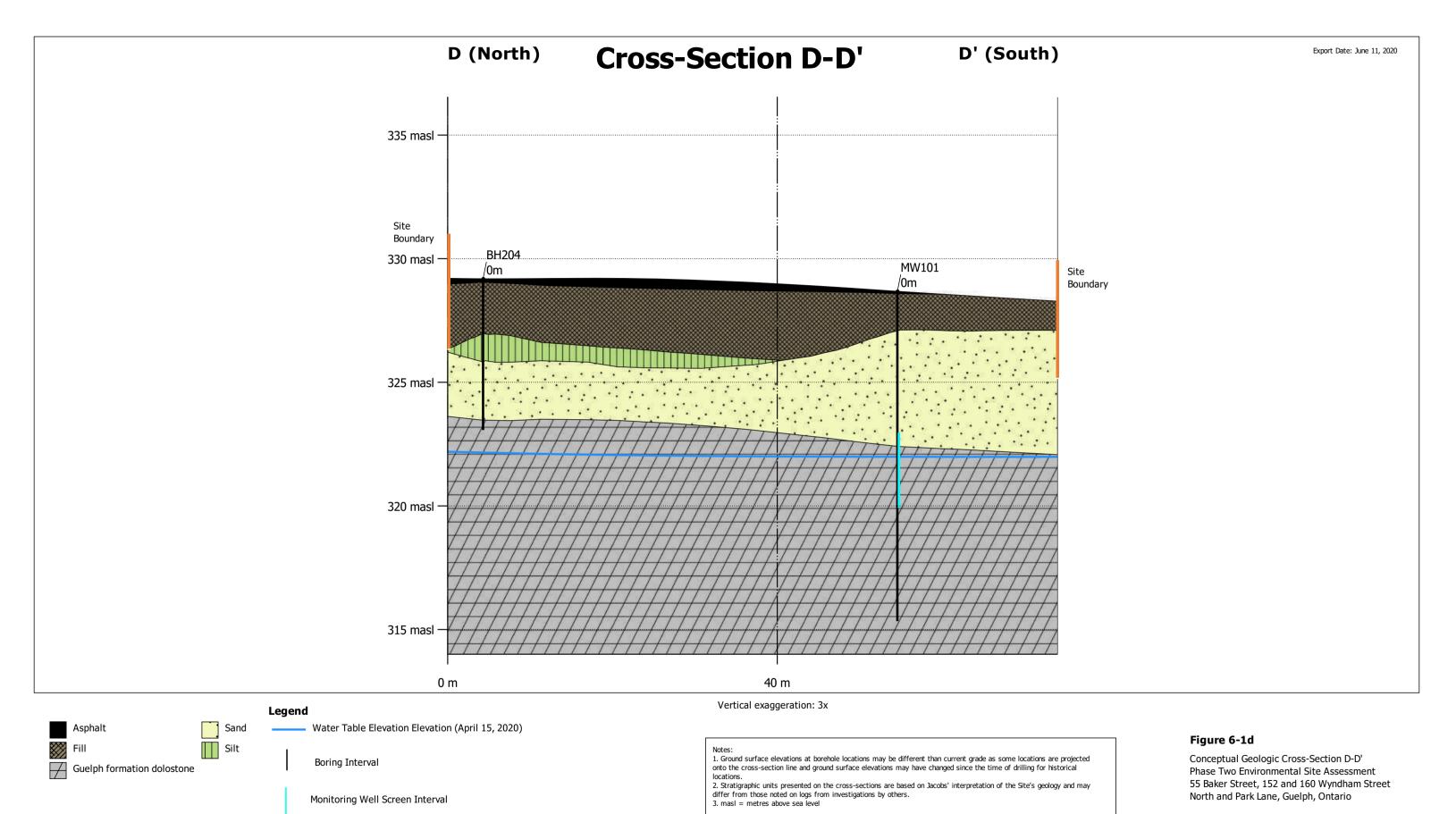
Fiaure 6-1b

Geologic Conceptual Cross-Section B-B' Phase Two Environmental Site Assessment 55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario





Jacobs



Jacobs





Monitoring Well - Water Table Elevation

Shallow Monitoring Well - Perched Water Table Elevation Site Boundary

Notes:

1. Historical sample locations and site boundaries are approximate. Current sample locations have been surveyed.

BH - Borehole MW - Monitoring Well GW - Groundwater

Figure 6-2a Groundwater Contours - September 2019 Phase Two Environmental Site Assessment 55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario Date Exported: 6/9/2020





December 18, 2019 Groundwater Elevations (mASL)

Shallow Monitoring Well - Perched Water Table Elevation → Flow Direction

Monitoring Well - Water Table Elevation
Monitoring Well - Deep

Water Table Elevation Contour (masl) - December 18, 2019

Site Boundary

Notes:

1. Historical sample locations and site boundaries are approximate. Current sample locations have been surveyed.

BH - Borehole MW - Monitoring Well GW - Groundwater

Figure 6-2b Groundwater Contours - December 2019 Phase Two Environmental Site Assessment 55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario Date Exported: 6/9/2020





Shallow Monitoring Well - Perched Water Table Elevation
Flow Direction

Site Boundary

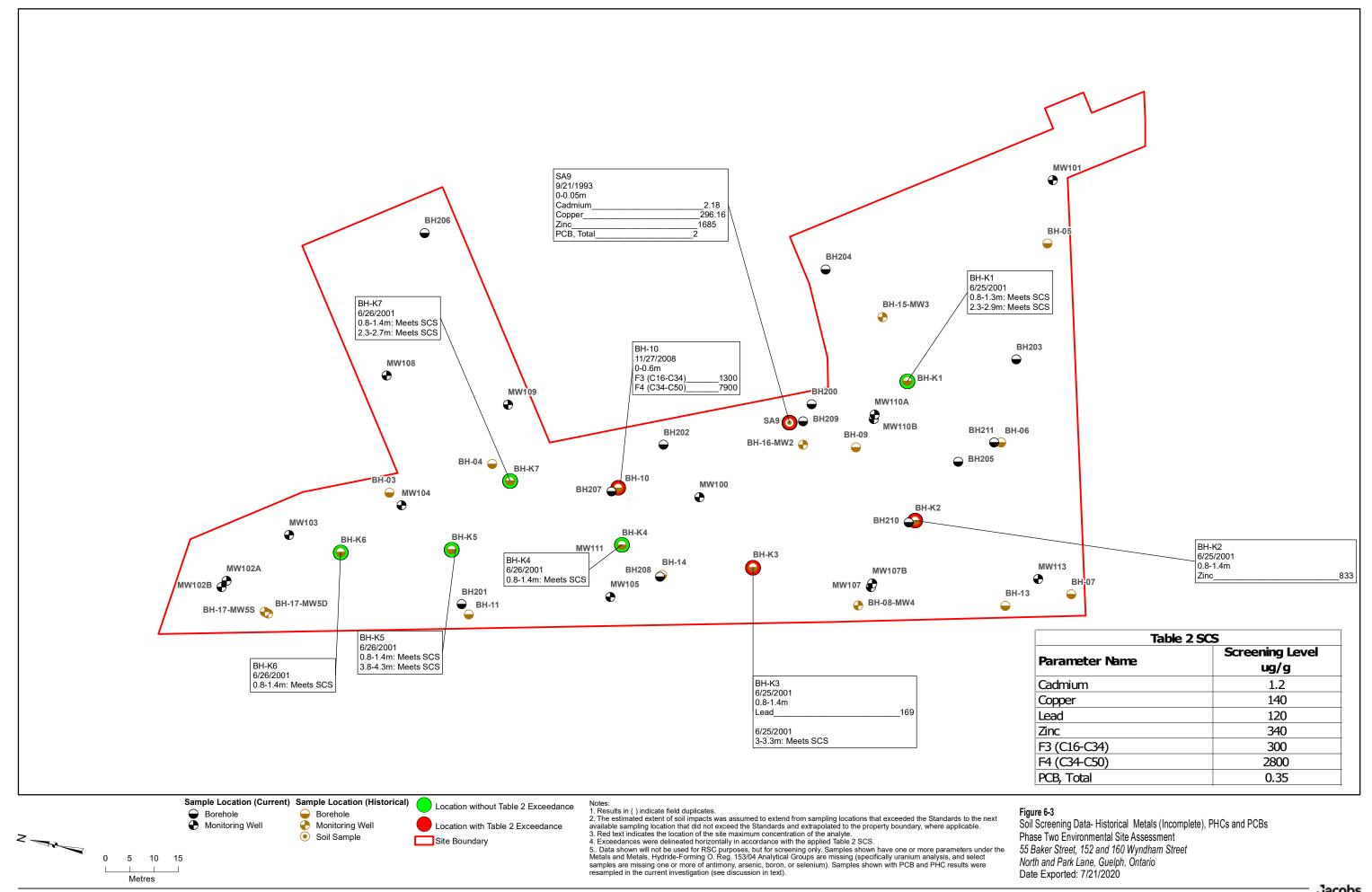
Monitoring Well - Water Table Elevation
Monitoring Well - Deep

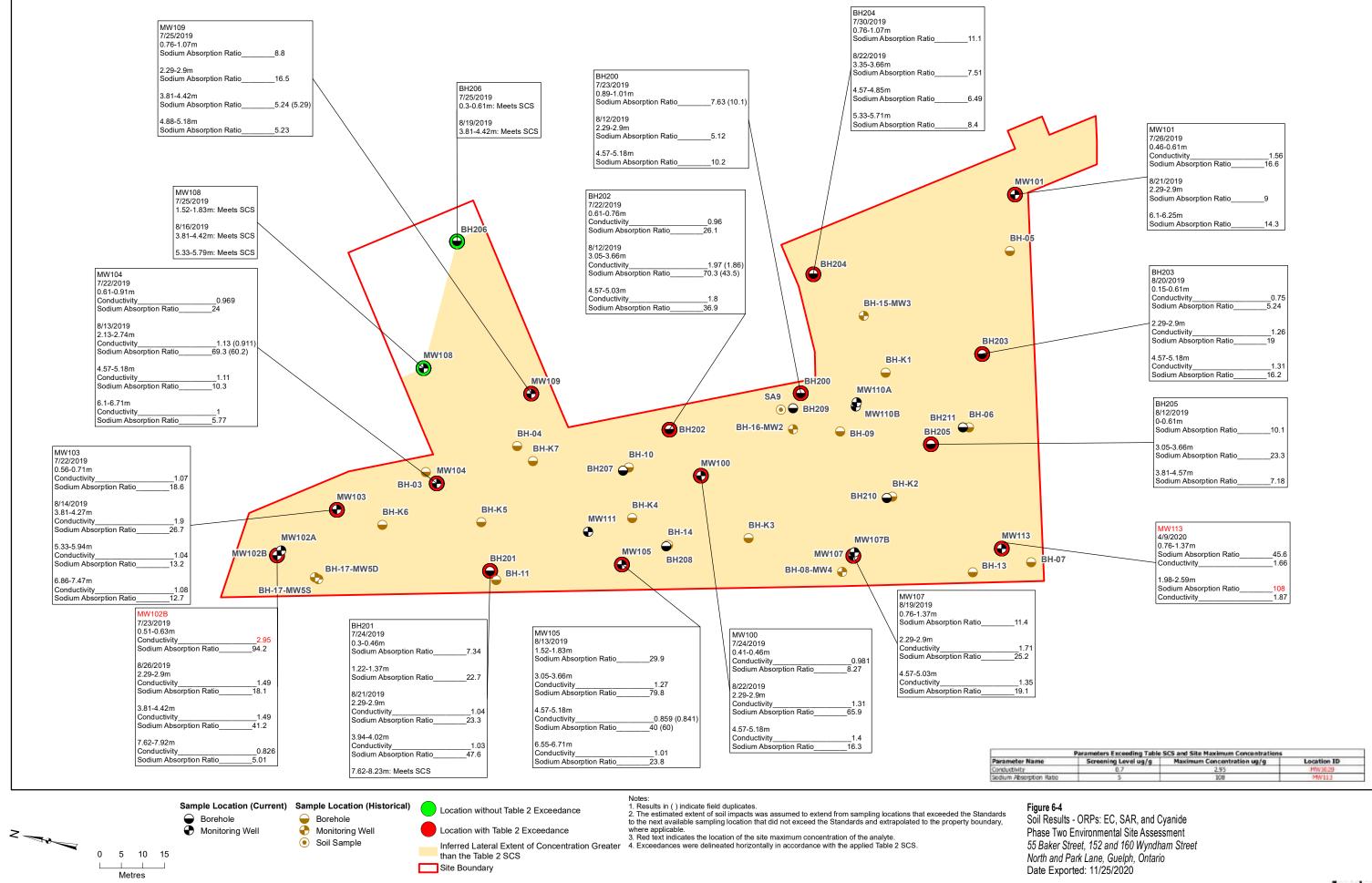
Notes:

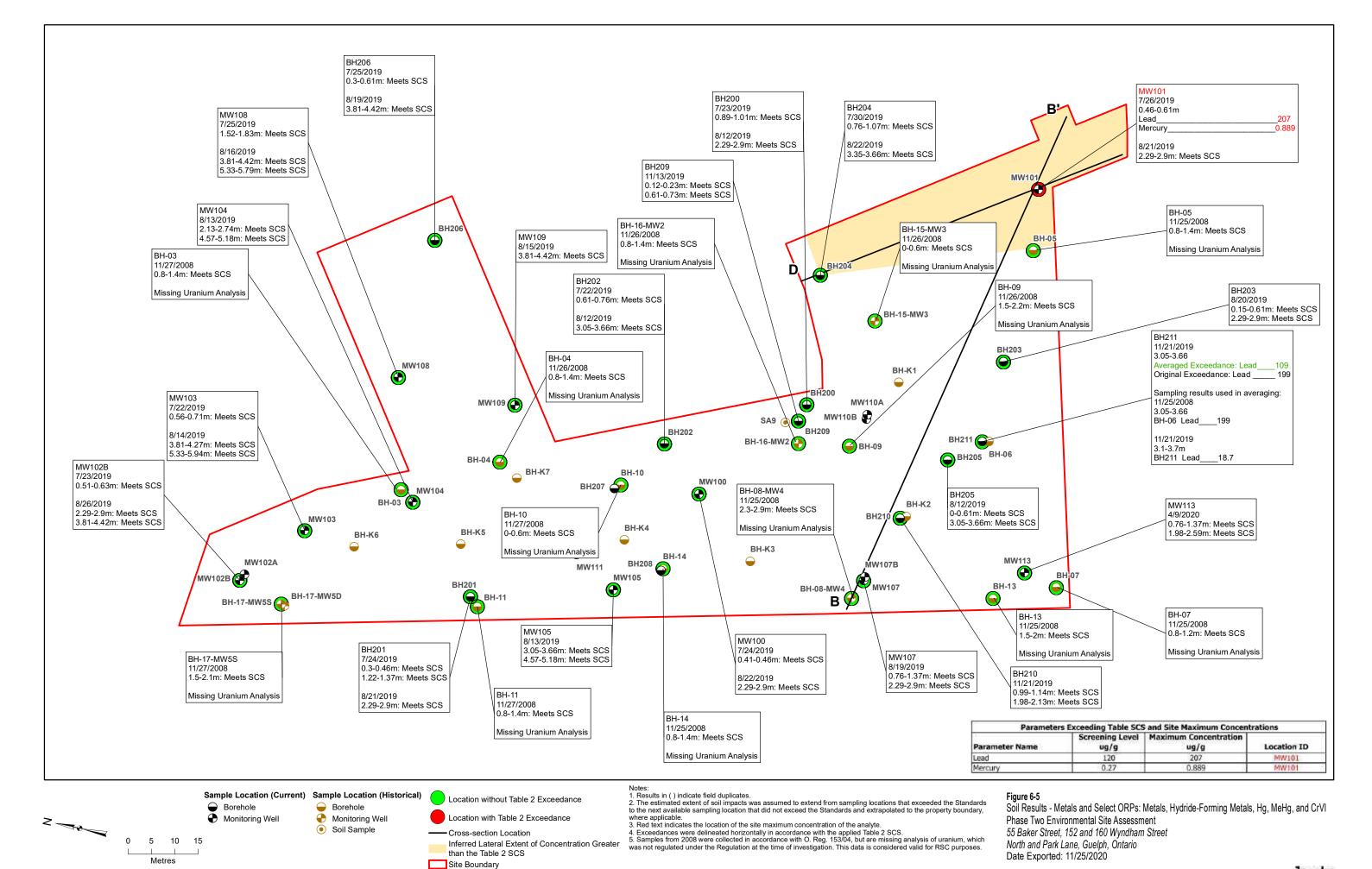
1. Historical sample locations and site boundaries are approximate. Current sample locations have been surveyed.

BH - Borehole MW - Monitoring Well GW - Groundwater

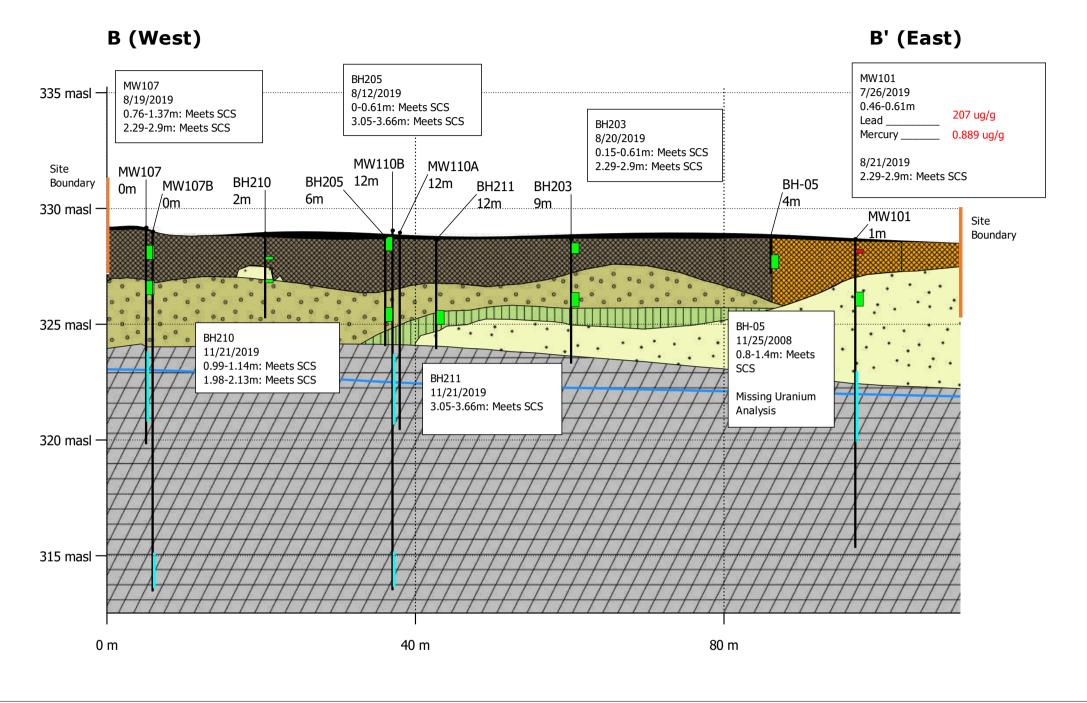
Figure 6-2c Groundwater Contours - April 2020 Phase Two Environmental Site Assessment 55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario Date Exported: 6/9/2020







Cross-Section B-B'



Asphalt Guelph formation dolostone Boring Interval Fill Sand Sand and Gravel Silt Monitoring Well Screen Interval Soil Sample Exceeds SCS Extent of Soil > SCS Soil Sample Meets SCS

Vertical exaggeration: 3x

Notes

 Ground surface elevations at borehole locations may be different than current grade as some locations are projected onto the cross-section line and ground surface elevations may have changed since the time of drilling for historical locations. Distance of projection is presented below each location name on the section.

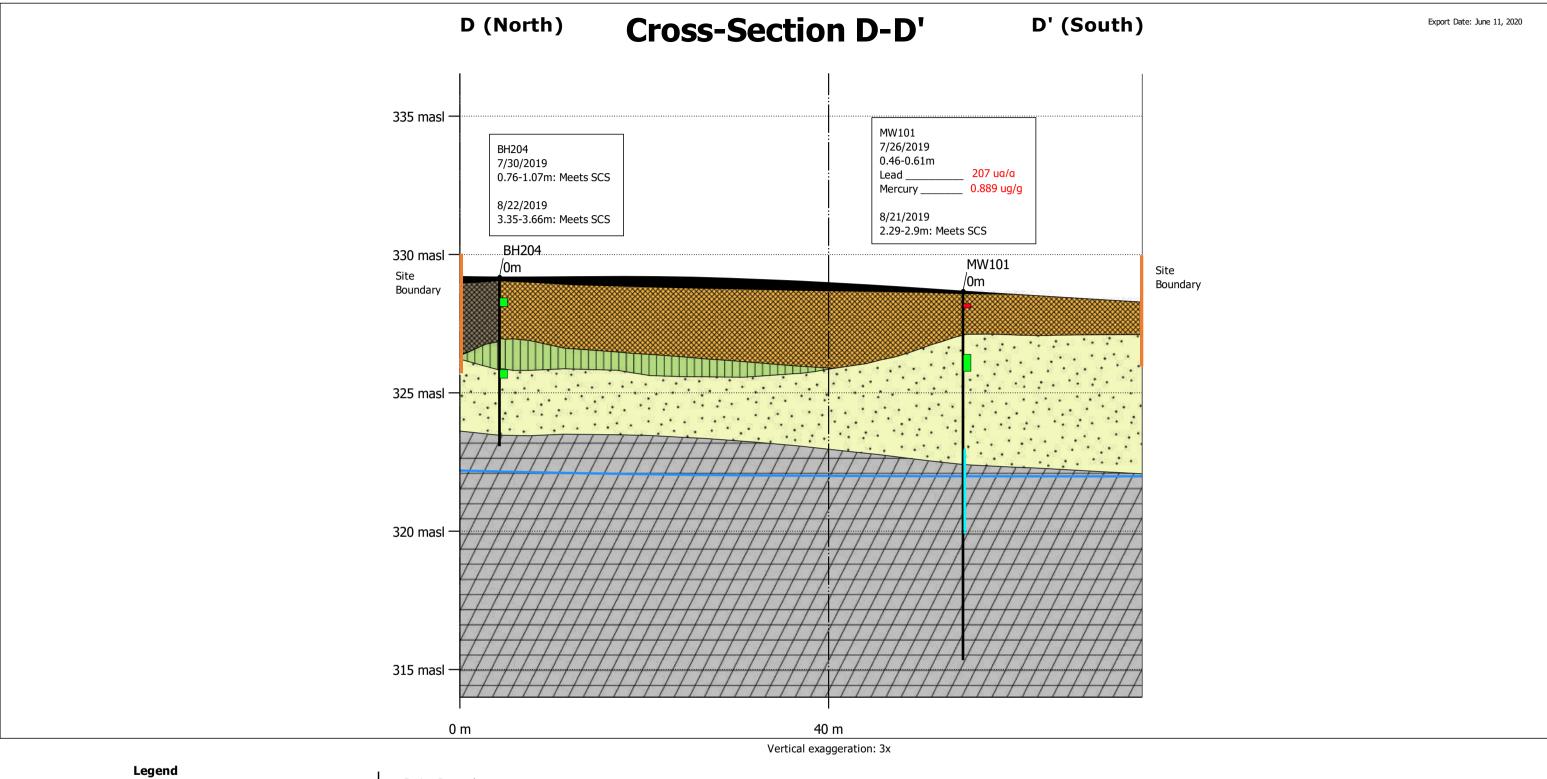
- Stratigraphic units presented on the cross-sections are based on Jacobs' interpretation of the Site's geology and may differ from those noted on logs from investigations by others.
- 3. masl = metres above sea level
- 4. Results in () indicate field duplicates.
- 5. Red text indicates the locaiton of the site maximum concentration of the analyte.
- 6. Samples from 2008 were collected in accordance with O.Reg. 153/04, but are missing analysis of uranium, which was not regulated under the Regulation at the time of investigation. This data is considered valid for RSC purposes.

Figure 6-5a

Soil Results - Metals and Select ORPs: Metals, Hydride-Forming Metals, Hg, MeHG, and CrVI Cross-Section B-B'

Phase Two Environmental Site Assessment 55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario







Water Table Elevation Elevation (April 15, 2020)

Notes:

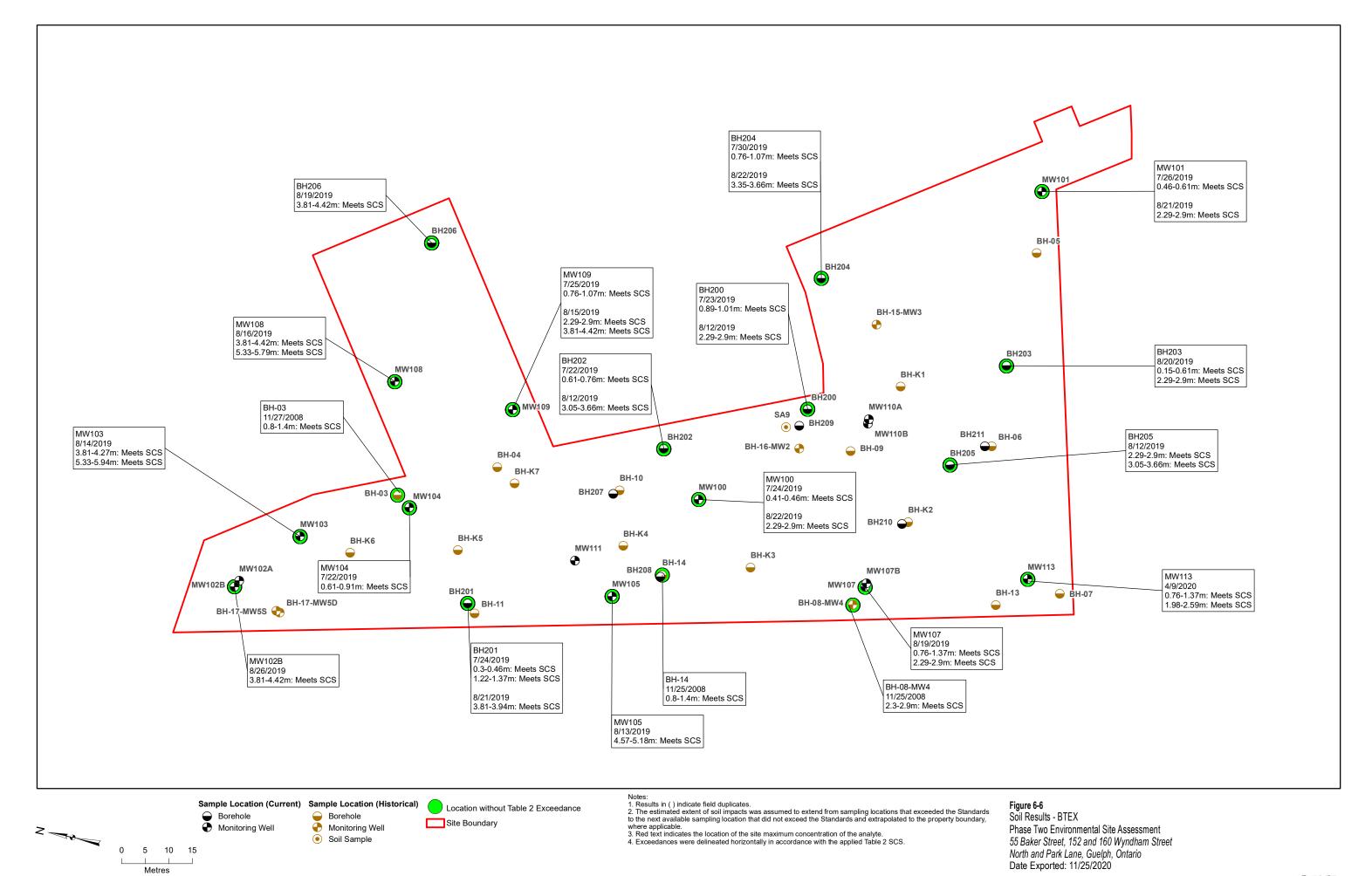
- Ground surface elevations at borehole locations may be different than current grade as some locations are projected onto the cross-section line and ground surface elevations may have changed since the time of drilling for historical locations.
- Stratigraphic units presented on the cross-sections are based on Jacobs' interpretation of the Site's geology and may differ from those noted on logs from investigations by others.
- 3. masl = metres above sea level
- 4. Results in () indicate field duplicates.
- 5. Red text indicates the locaiton of the site maximum concentration of the analyte.
- 6. Samples from 2008 were collected in accordance with O.Reg. 153/04, but are missing analysis of uranium, which was not regulated under the Regulation at the time of investigation. This data is considered valid for RSC purposes.

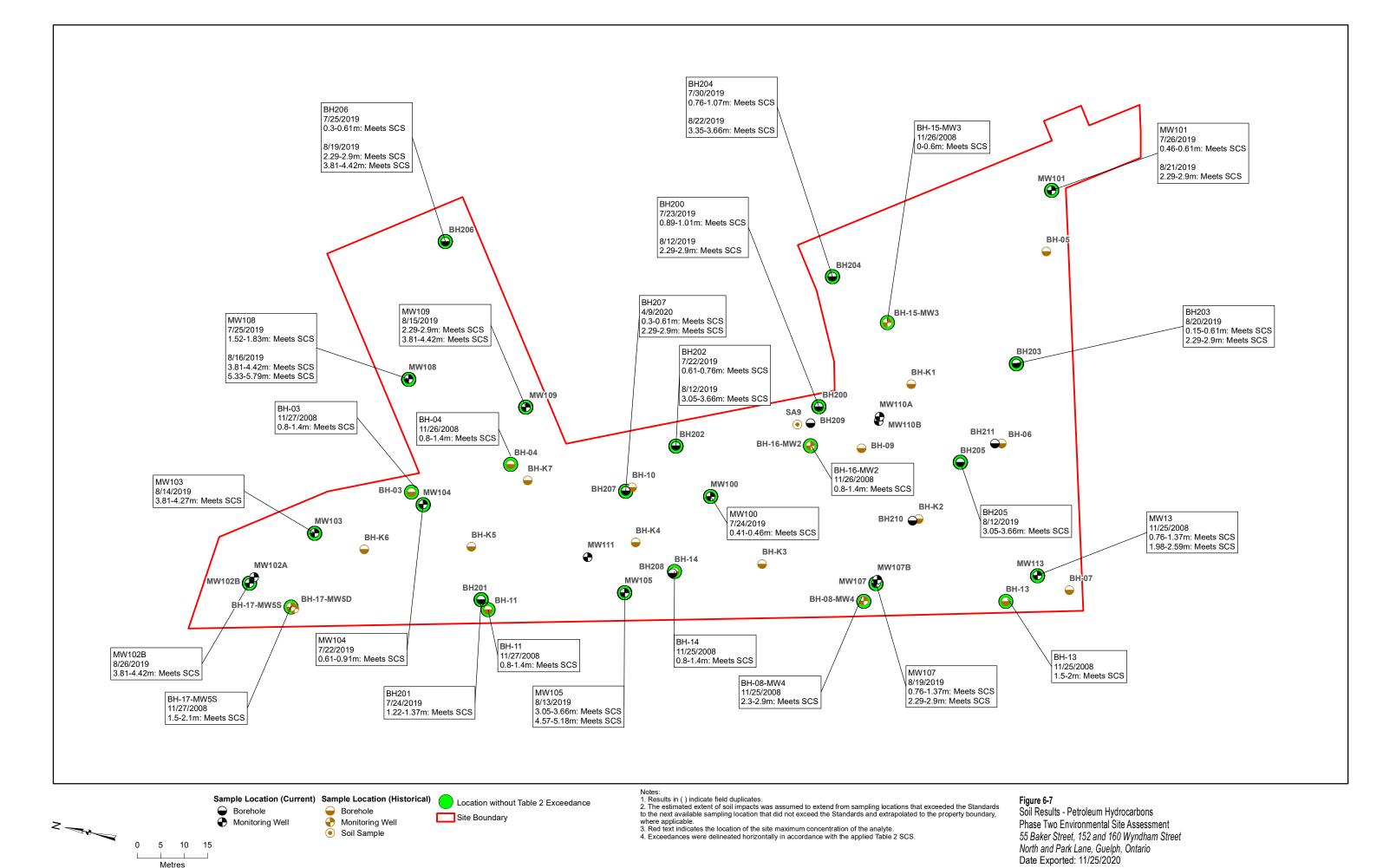
Figure 6-5b

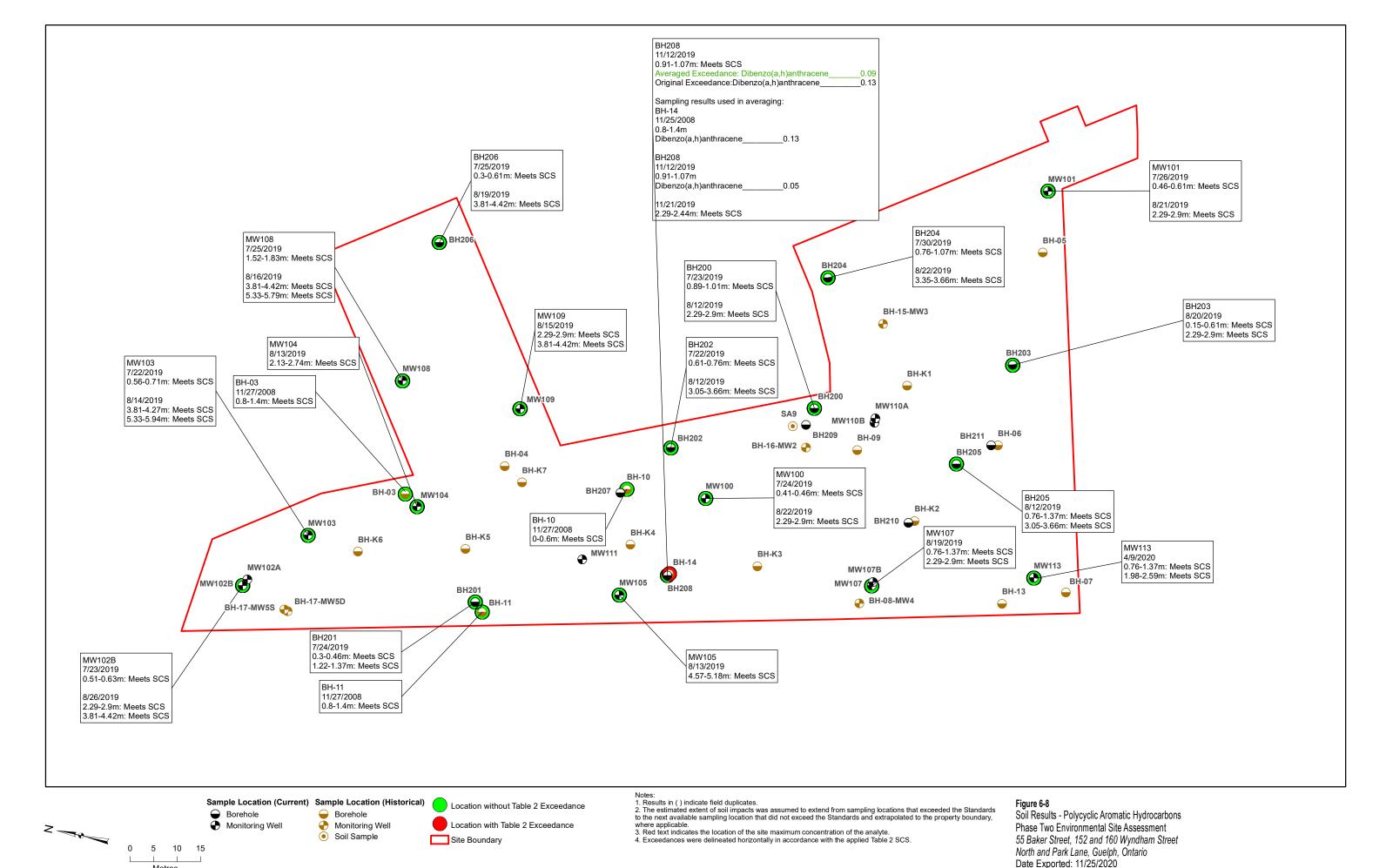
Soil Results - Metals and Select ORPs: Metals, Hydride-Forming Metals, Hg, MeHG, and CrVI Cross-Section D-D'

Phase Two Environmental Site Assessment 55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario

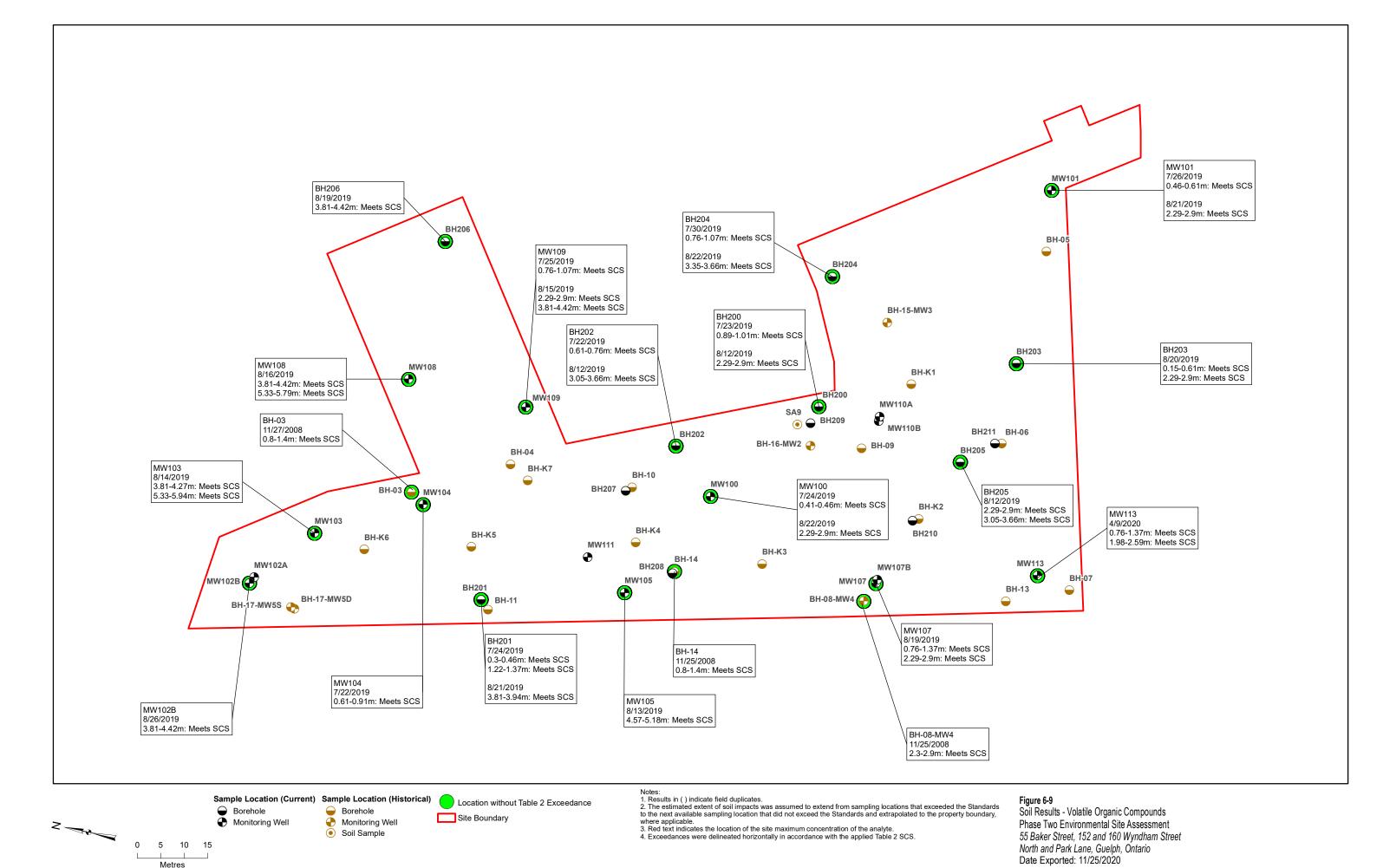


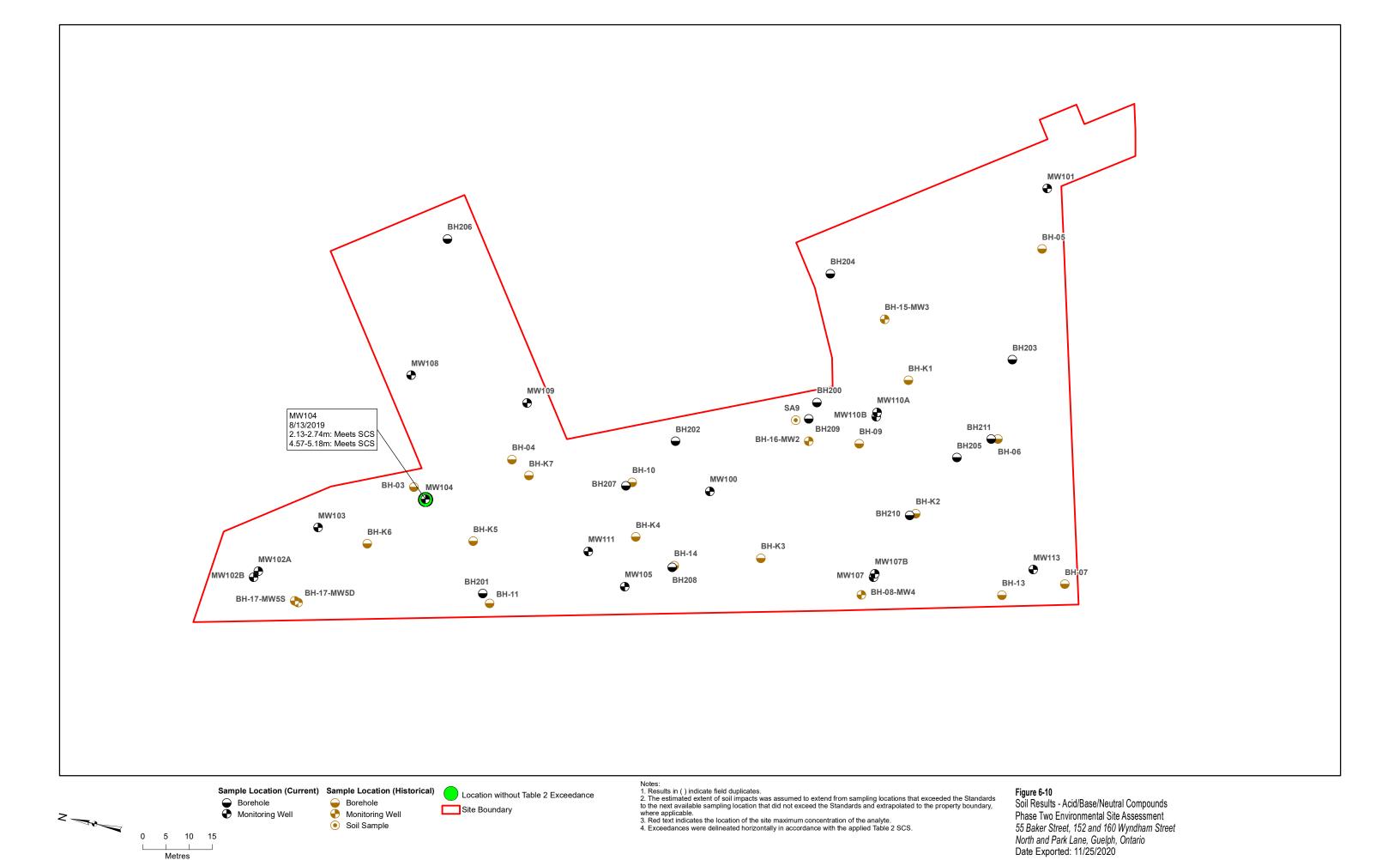


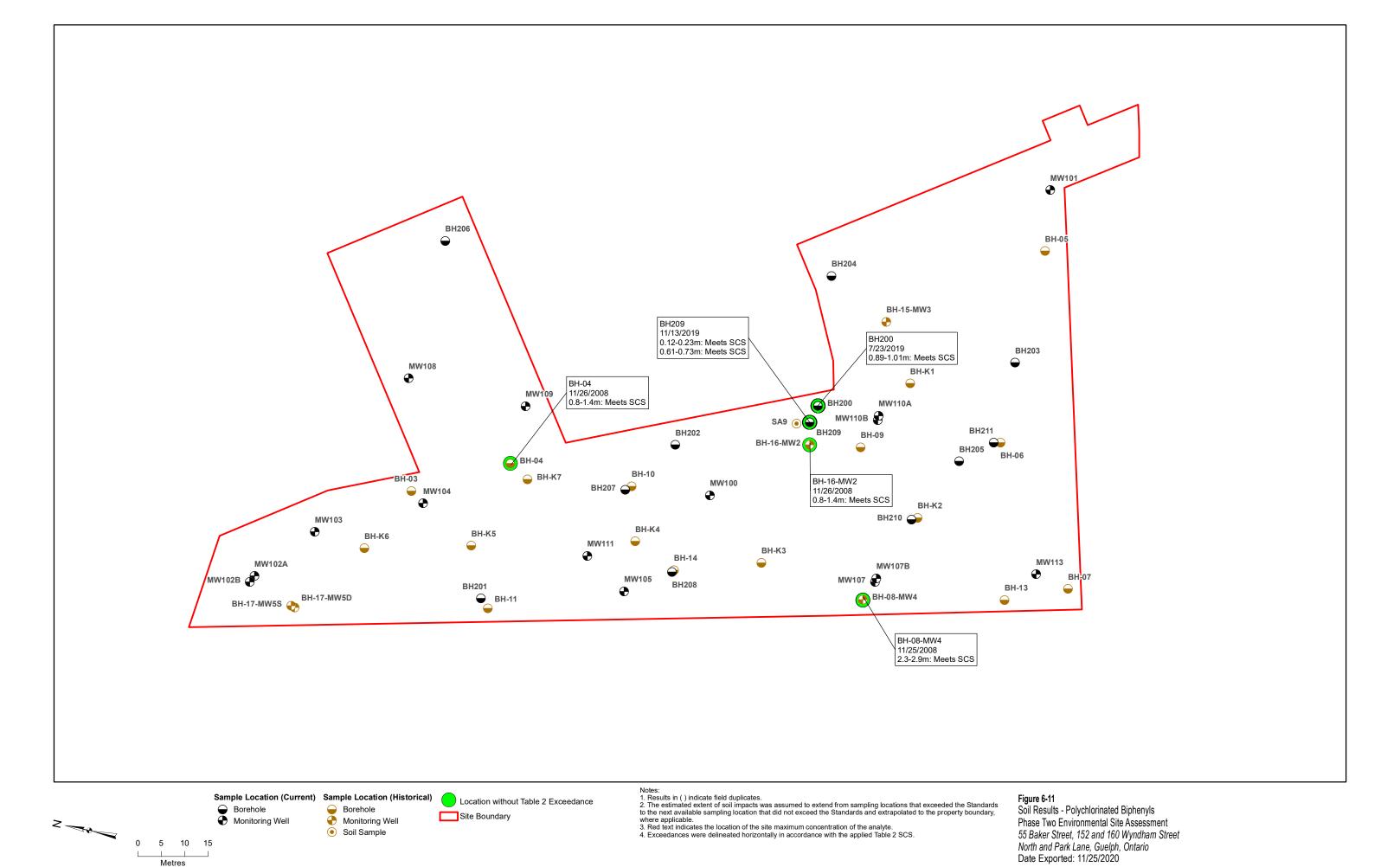


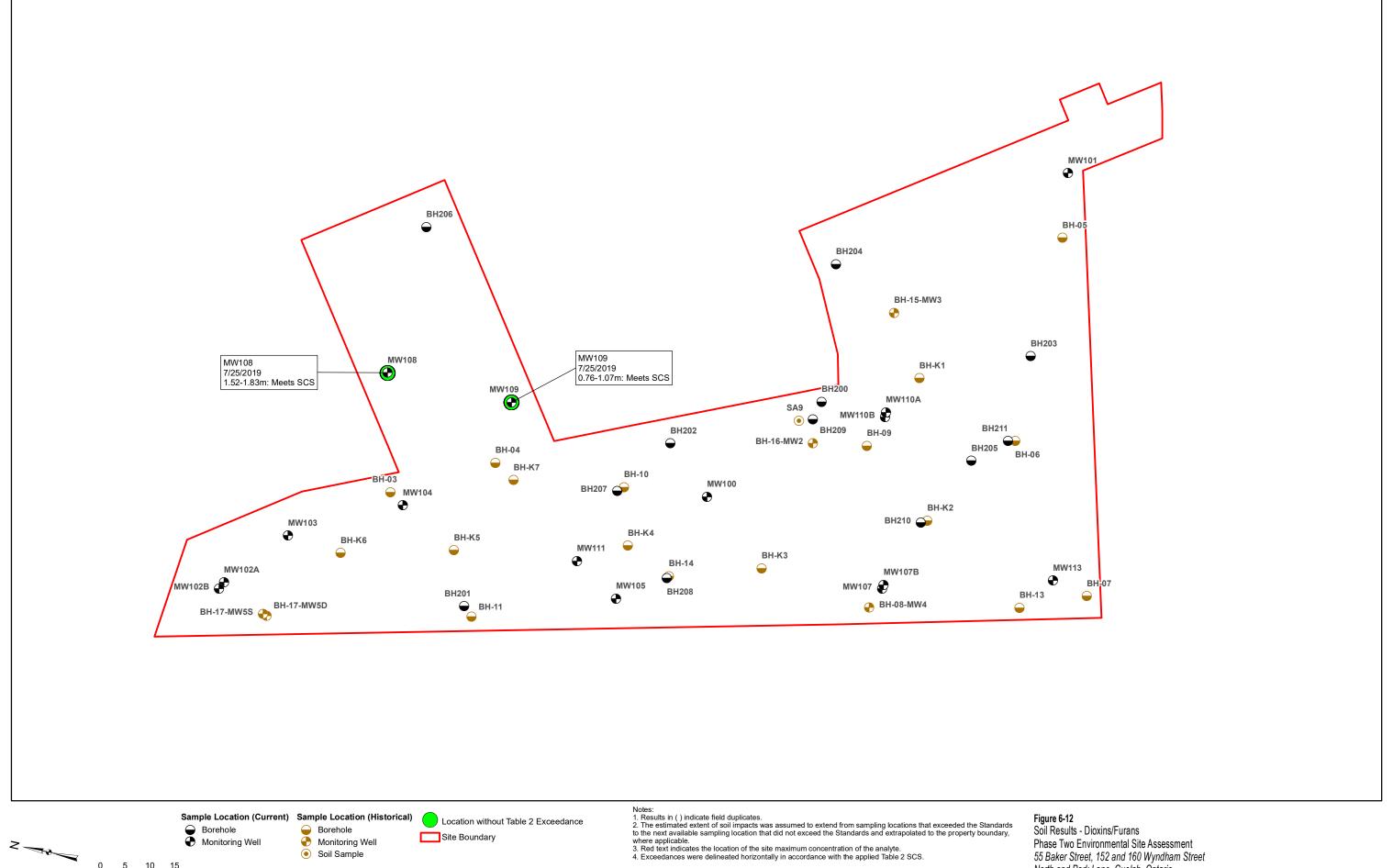


Metres



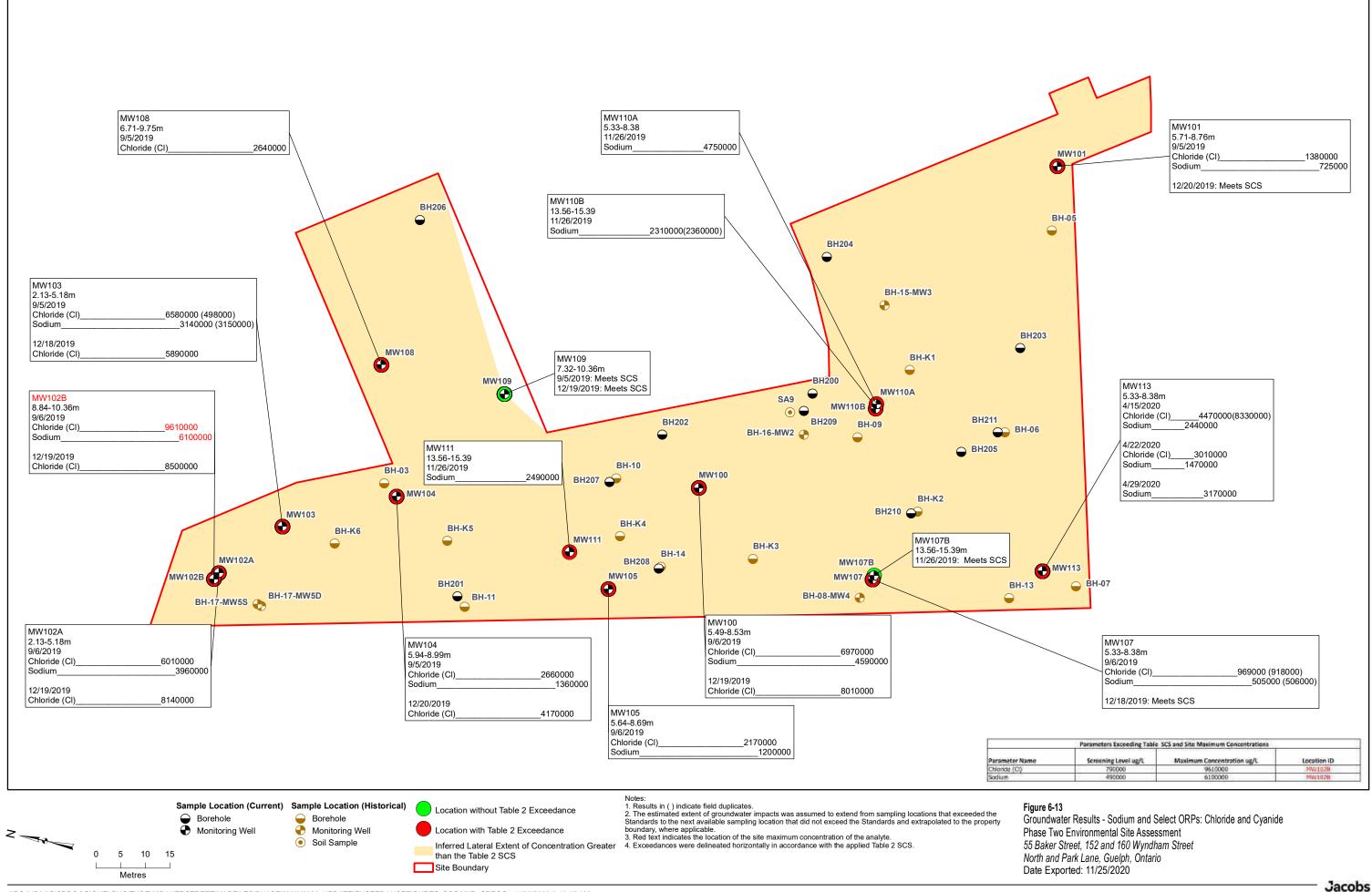


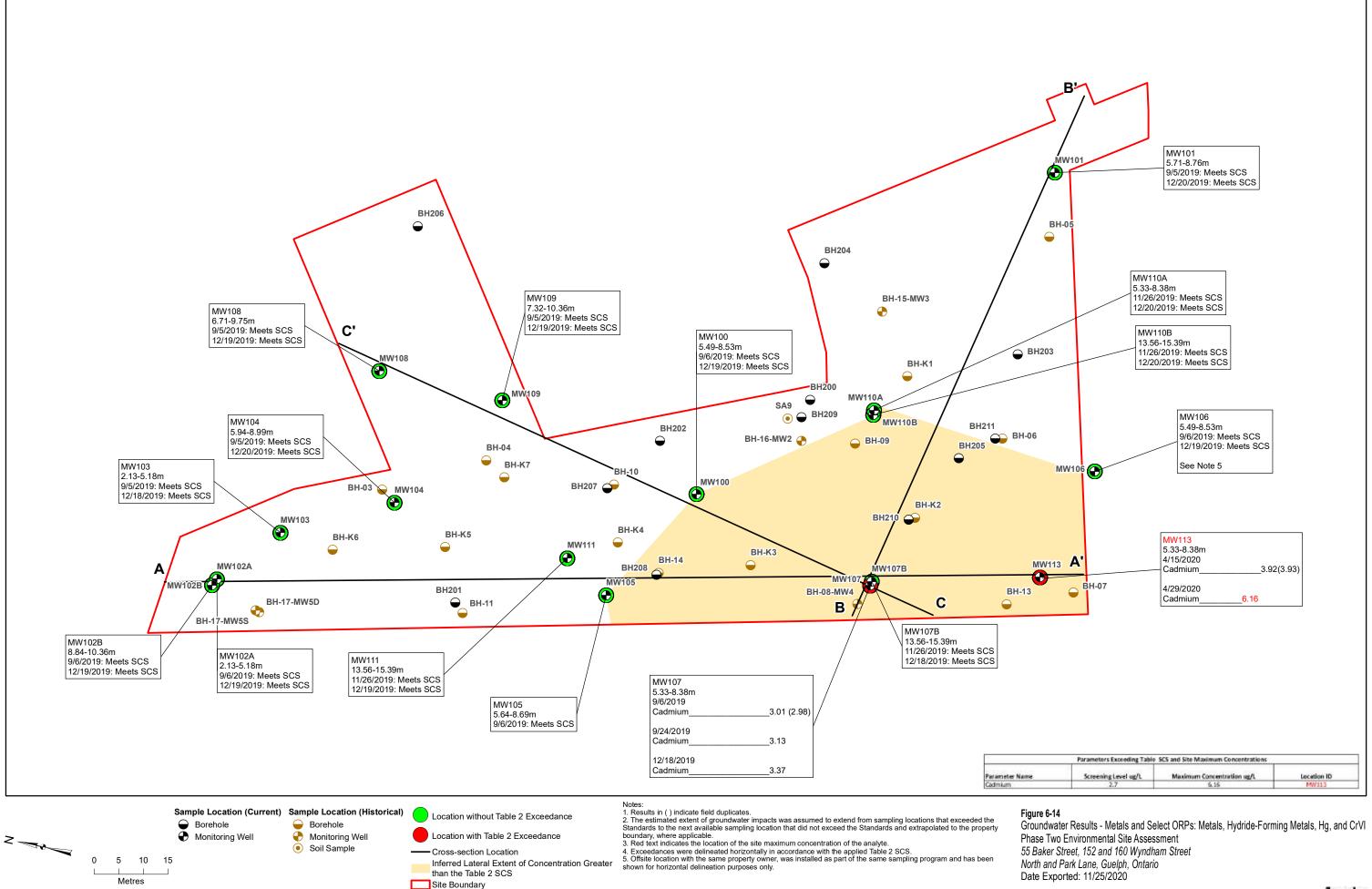




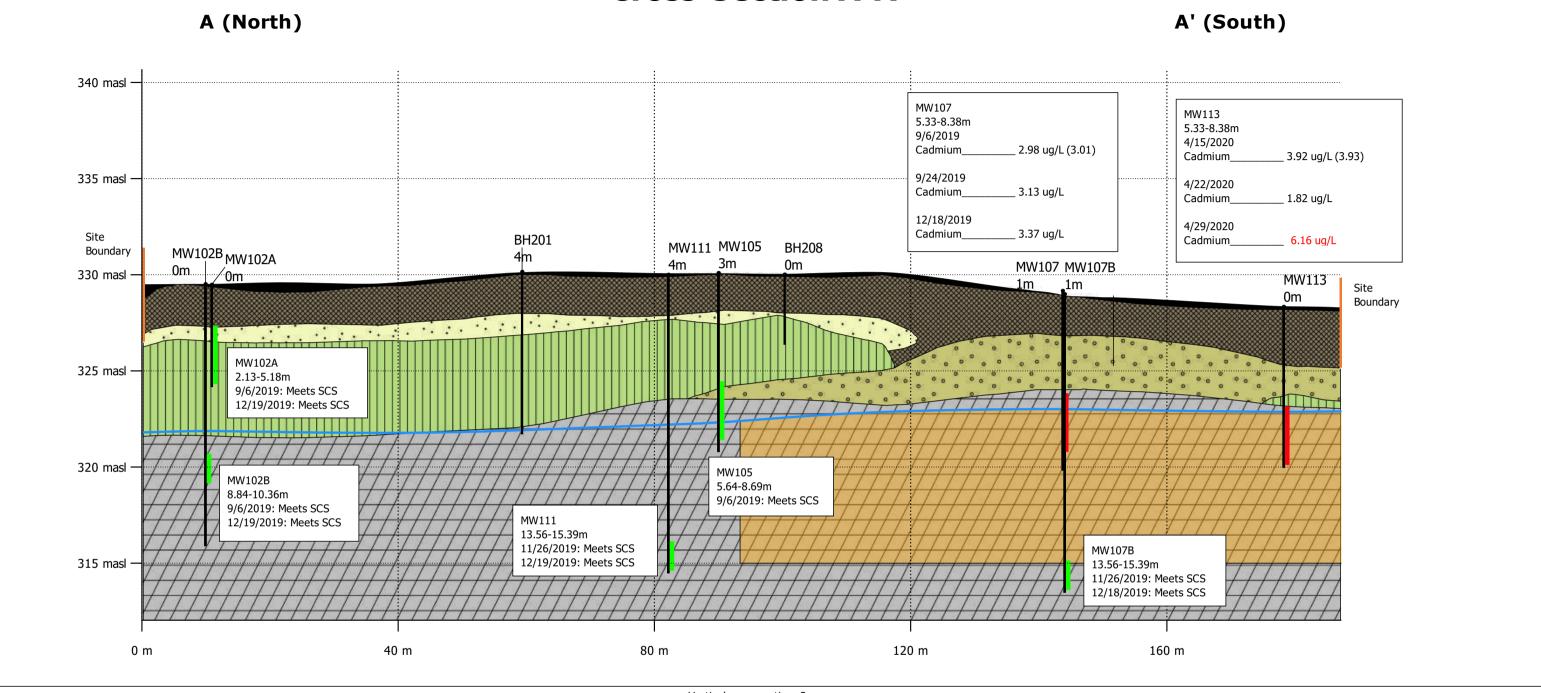
0 5 10 15 Metres

Soil Sample





Cross-Section A-A'





Vertical exaggeration: 3x

Figure 6-14a

Groundwater Results - Metals and Select ORPs: Metals, Hydride-Forming Metals, Hg, MeHG, and CrVI Cross-Section A-A'

Phase Two Environmental Site Assessment 55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario

4. Results in () indicate field duplicates.

differ from those noted on logs from investigations by others.

3. masl = metres above sea level

5. Red text indicates the locaiton of the site maximum concentration of the analyte.

locations. Distance of projection is presented below each location name on the section.

6. Samples from 2008 were collected in accordance with O.Reg. 153/04, but are missing analysis of uranium, which was not regulated under the Regulation at the time of investigation. This data is considered valid for RSC purposes.

1. Ground surface elevations at borehole locations may be different than current grade as some locations are projected

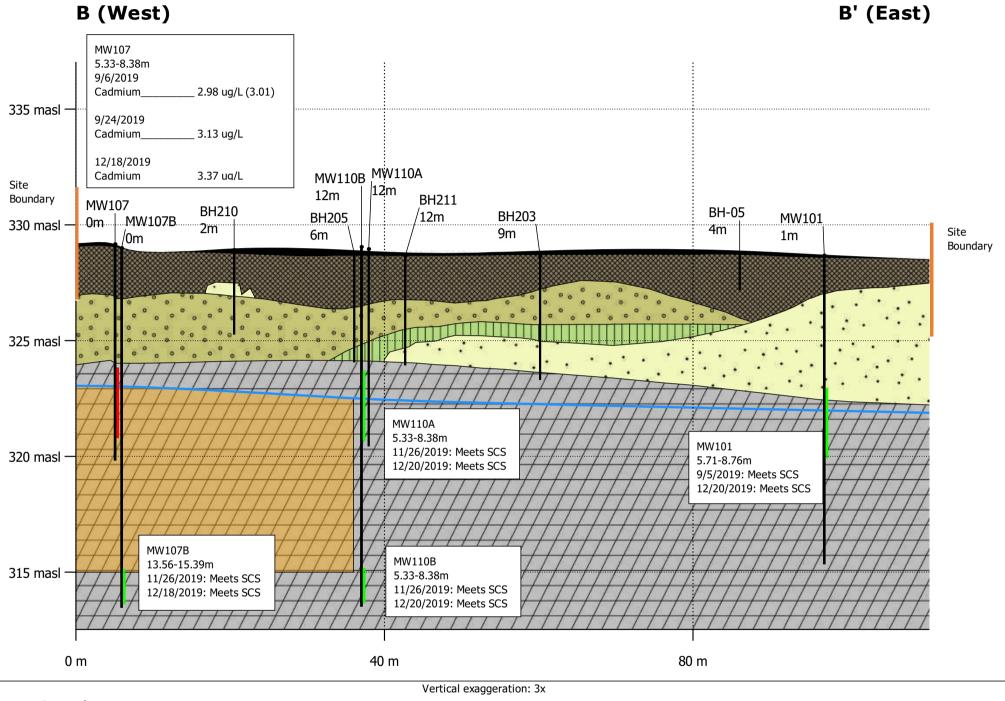
2. Stratigraphic units presented on the cross-sections are based on Jacobs' interpretation of the Site's geology and may

onto the cross-section line and ground surface elevations may have changed since the time of drilling for historical





Cross-Section B-B'



Asphalt Guelph formation dolostone Water Table Elevation (April 15, 2020) Fill Sand Boring Interval Inferred Maximum Extent of Groundwater > SCS

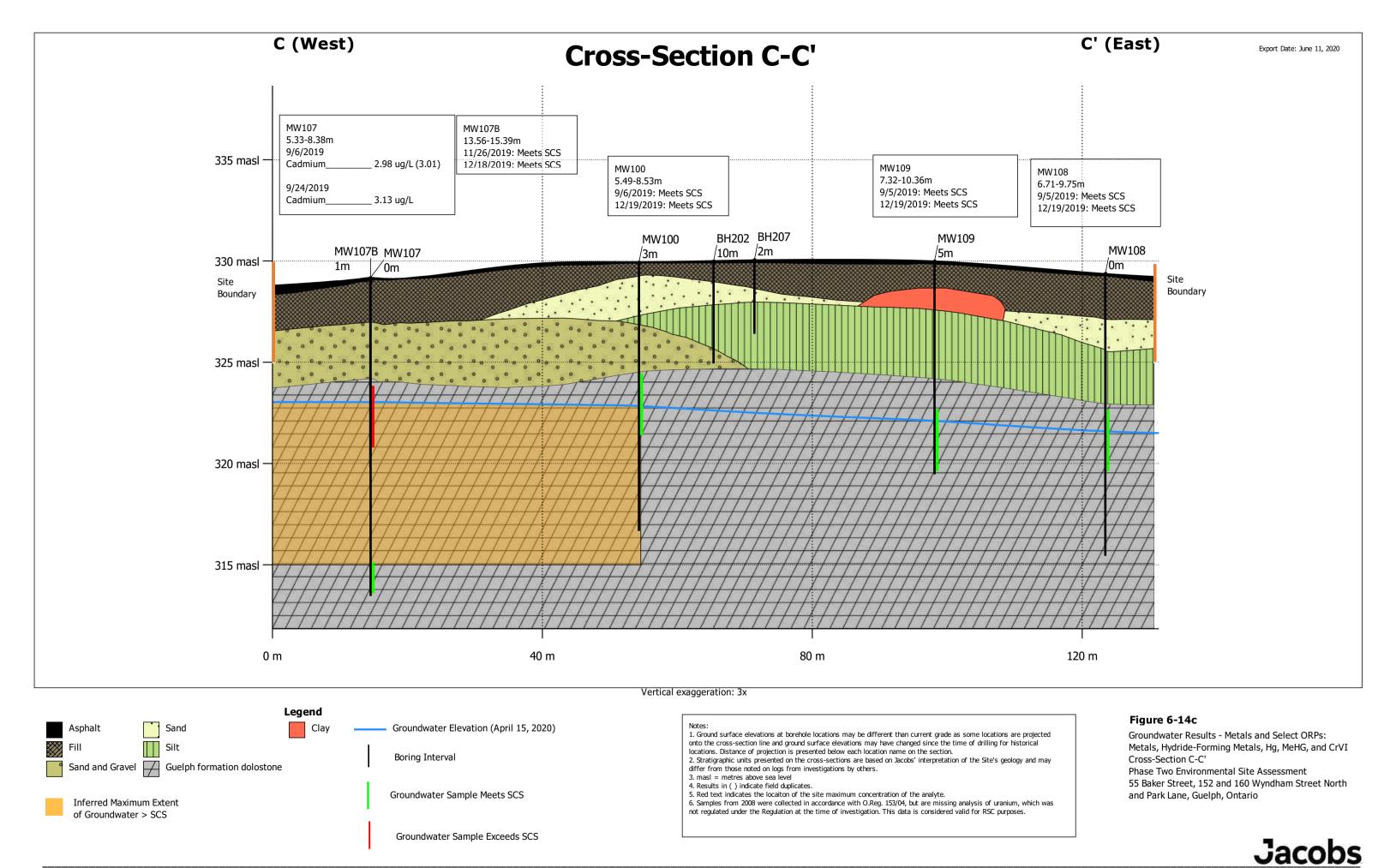
Groundwater Sample Exceeds SCS

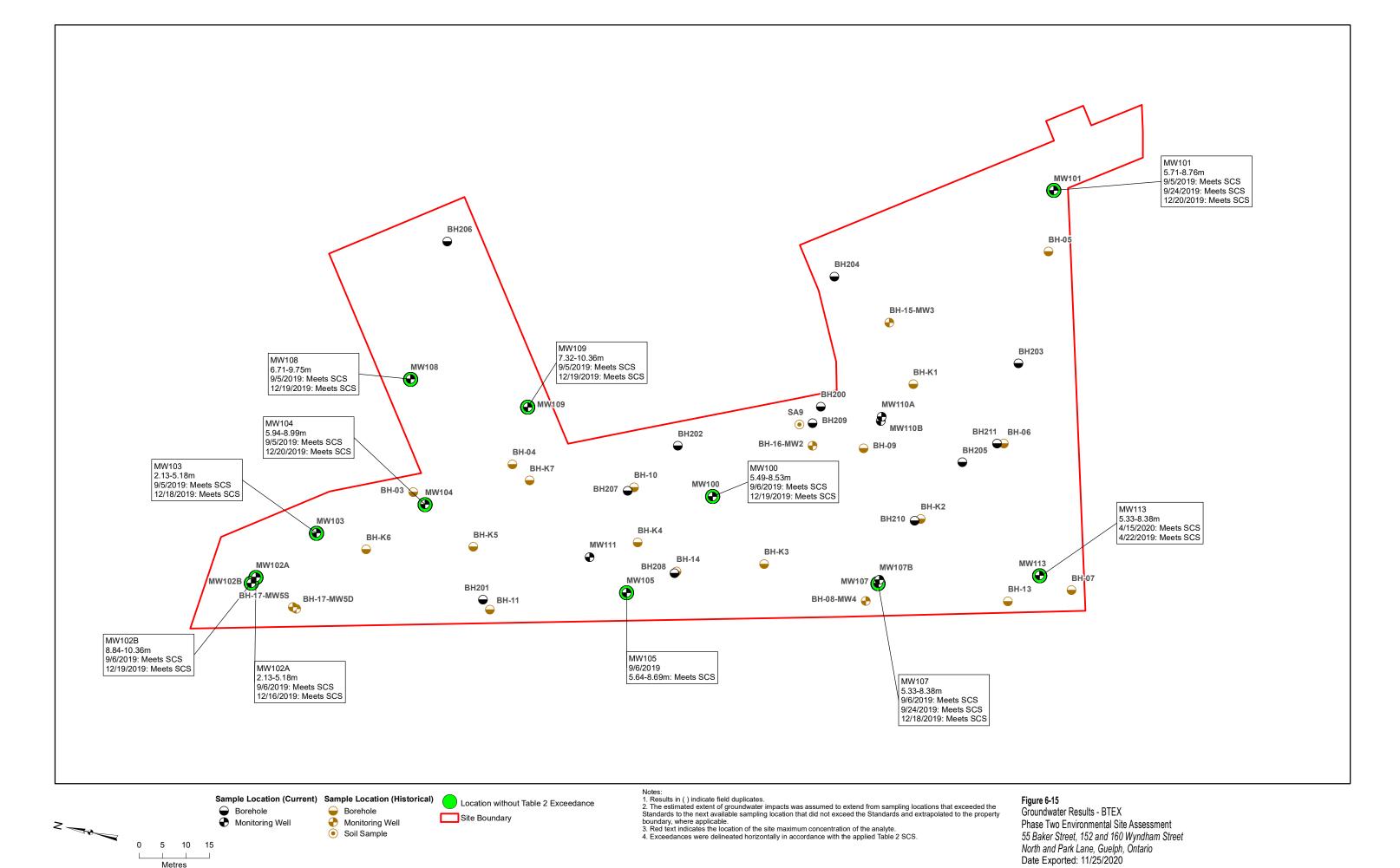
- 1. Ground surface elevations at borehole locations may be different than current grade as some locations are projected onto the cross-section line and ground surface elevations may have changed since the time of drilling for historical locations. Distance of projection is presented below each location name on the section.
- 2. Stratigraphic units presented on the cross-sections are based on Jacobs' interpretation of the Site's geology and may differ from those noted on logs from investigations by others.
- 3. masl = metres above sea level
- 4. Results in () indicate field duplicates.
- 5. Red text indicates the locaiton of the site maximum concentration of the analyte.
- 6. Samples from 2008 were collected in accordance with O.Reg. 153/04, but are missing analysis of uranium, which was not regulated under the Regulation at the time of investigation. This data is considered valid for RSC purposes.

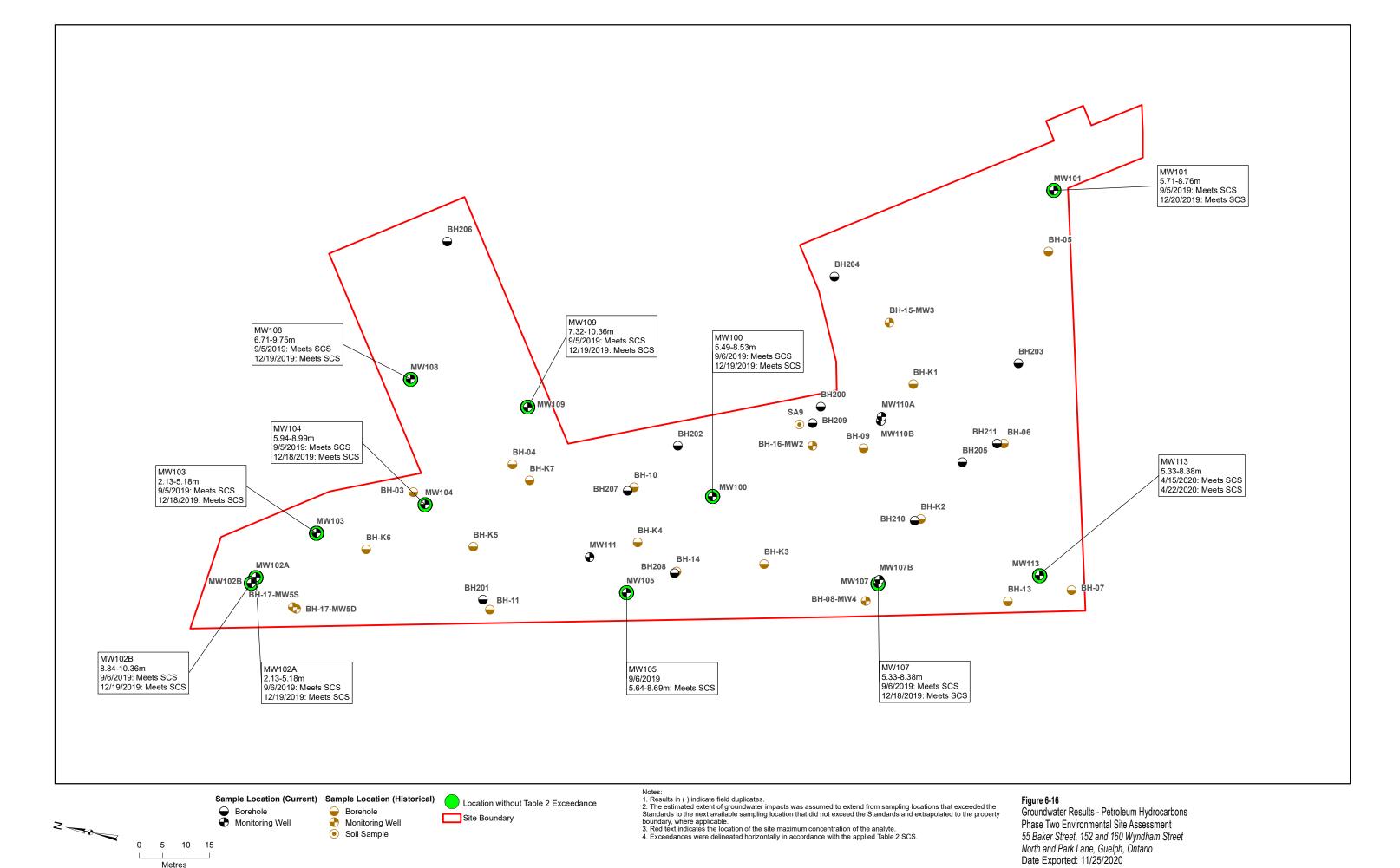
Figure 6-14b

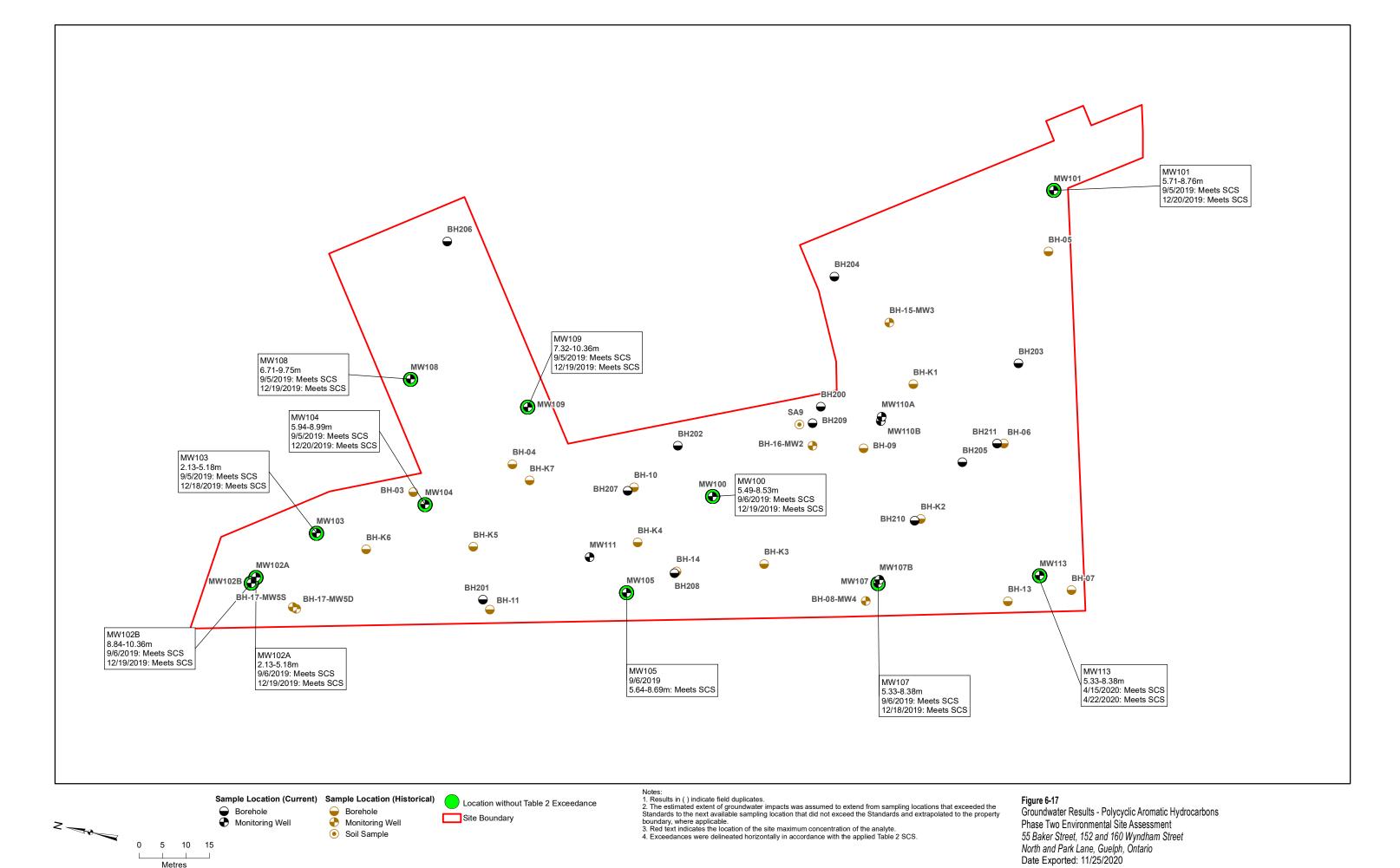
Groundwater Results - Metals and Select ORPs: Metals, Hydride-Forming Metals, Hg, MeHG, and CrVI Cross-Section B-B' Phase Two Environmental Site Assessment 55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario

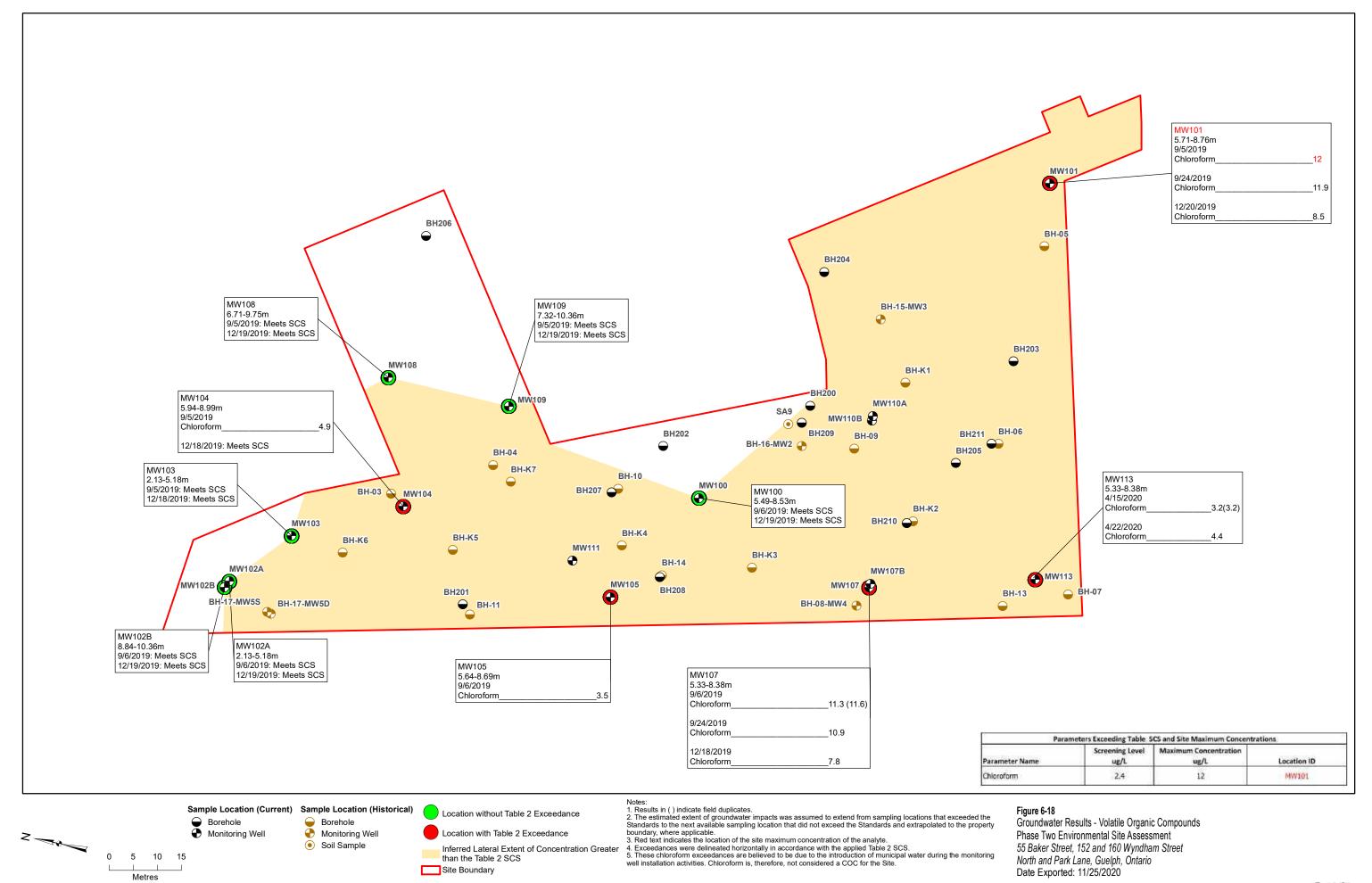


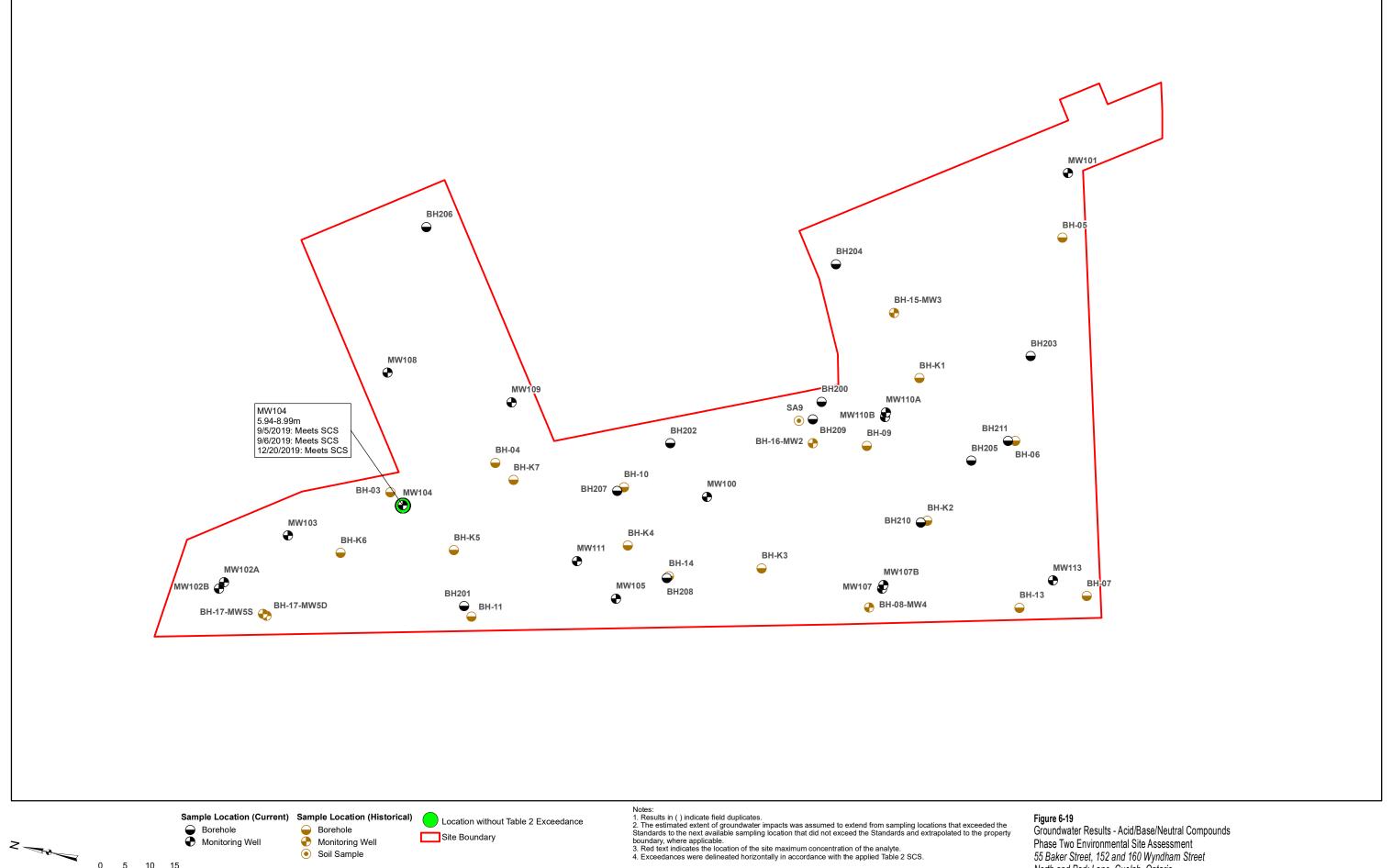












Groundwater Results - Acid/Base/Neutral Compounds Phase Two Environmental Site Assessment 55 Baker Street, 152 and 160 Wyndham Street North and Park Lane, Guelph, Ontario Date Exported: 11/25/2020



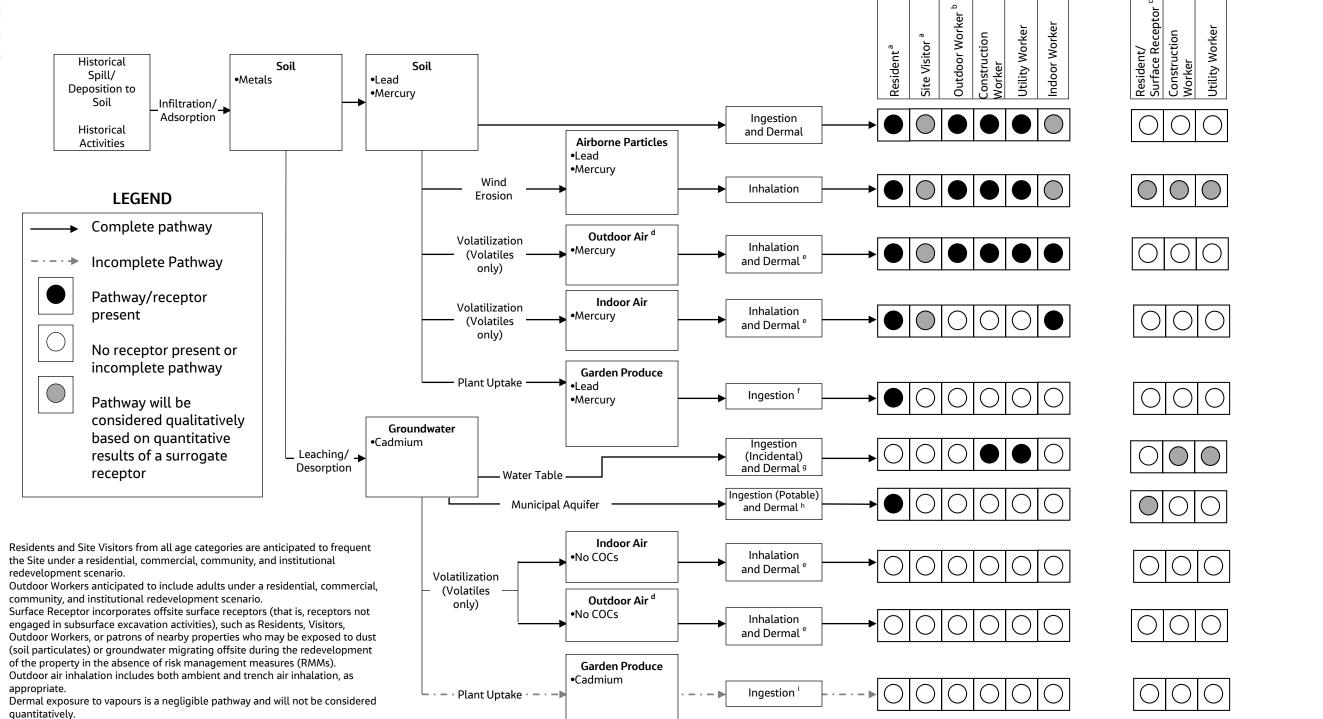


Figure 6-20a. Human Health Conceptual Site Model 55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario



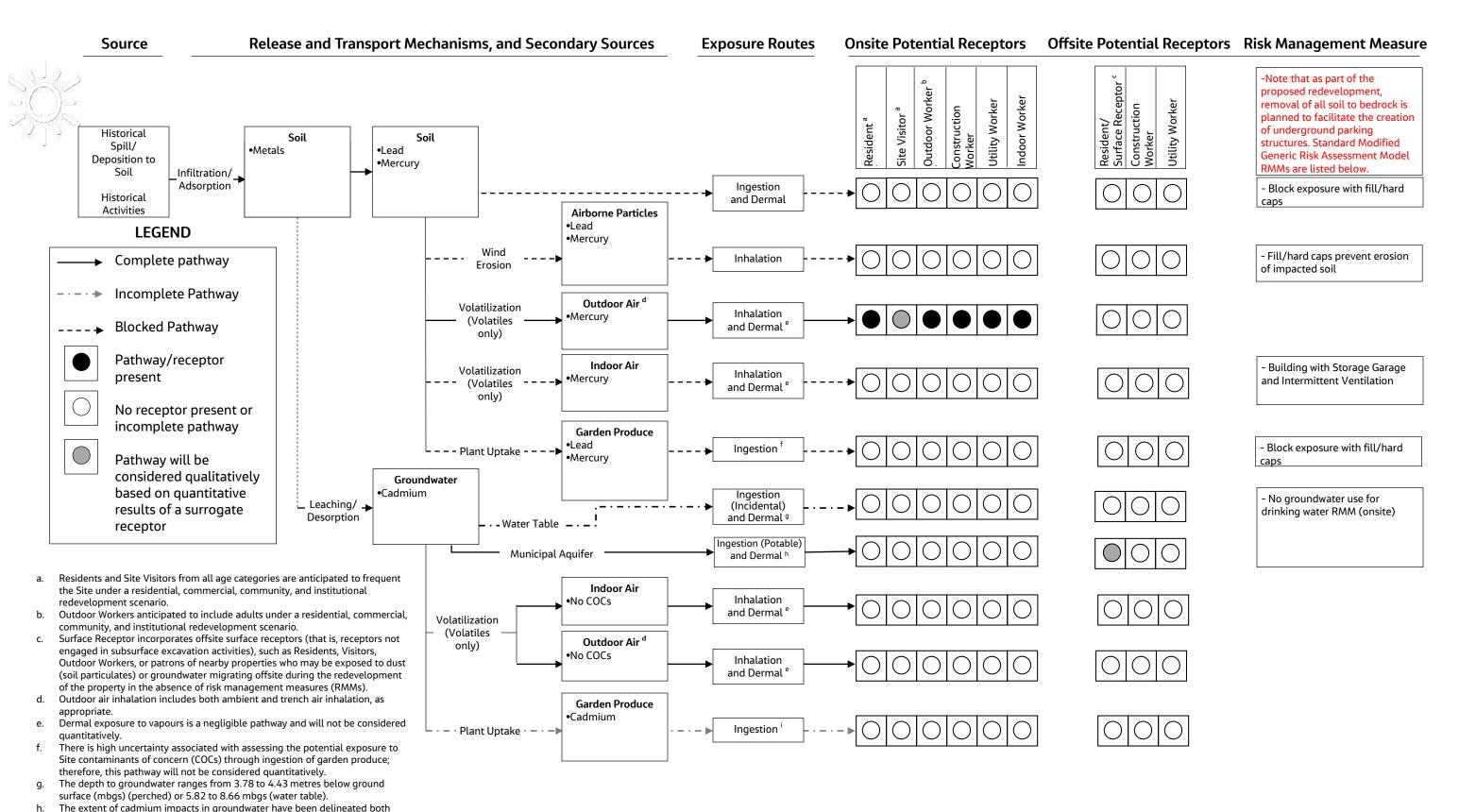
therefore, this pathway will not be considered quantitatively.

surface (mbgs) (perched) or 5.82 to 8.66 mbgs (water table).

There is high uncertainty associated with assessing the potential exposure to Site contaminants of concern (COCs) through ingestion of garden produce;

The depth to groundwater ranges from 3.78 to 4.43 metres below ground

The extent of cadmium impacts in groundwater have been delineated both horizontally and vertically. Based on this information, concentrations greater than the generic potable standards are not anticipated to extend downgradient



horizontally and vertically. Based on this information, concentrations greater than the generic potable standards are not anticipated to extend downgradient

Potential exposure to Site COCs in groundwater through ingestion of garden produce pathway is incomplete, as the water table is below the rooting depths

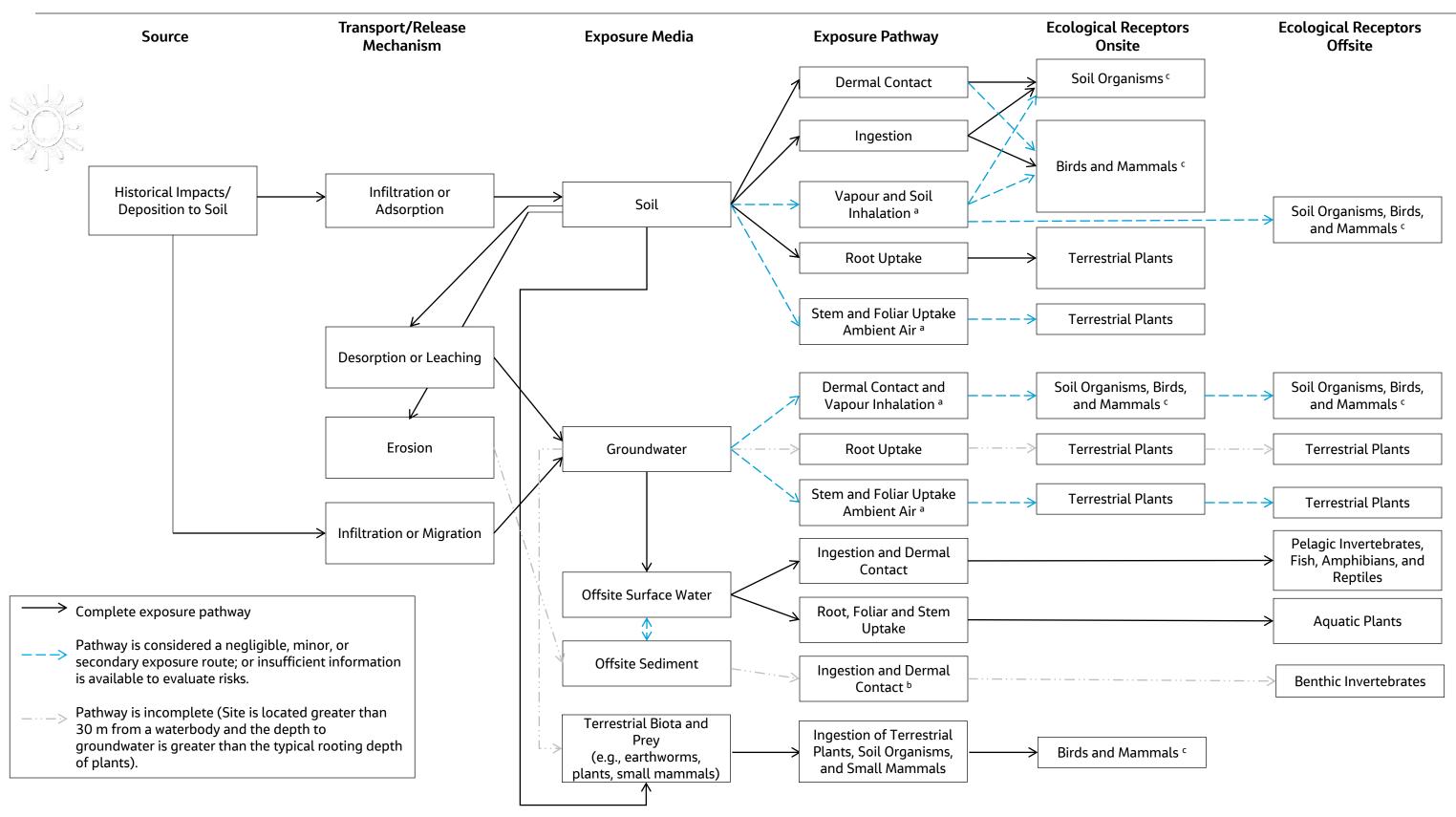
or to adversely affect the municipal aquifer.

of plants.

Figure 6-20b. Human Health Conceptual Site Model with Risk Management Measures

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario





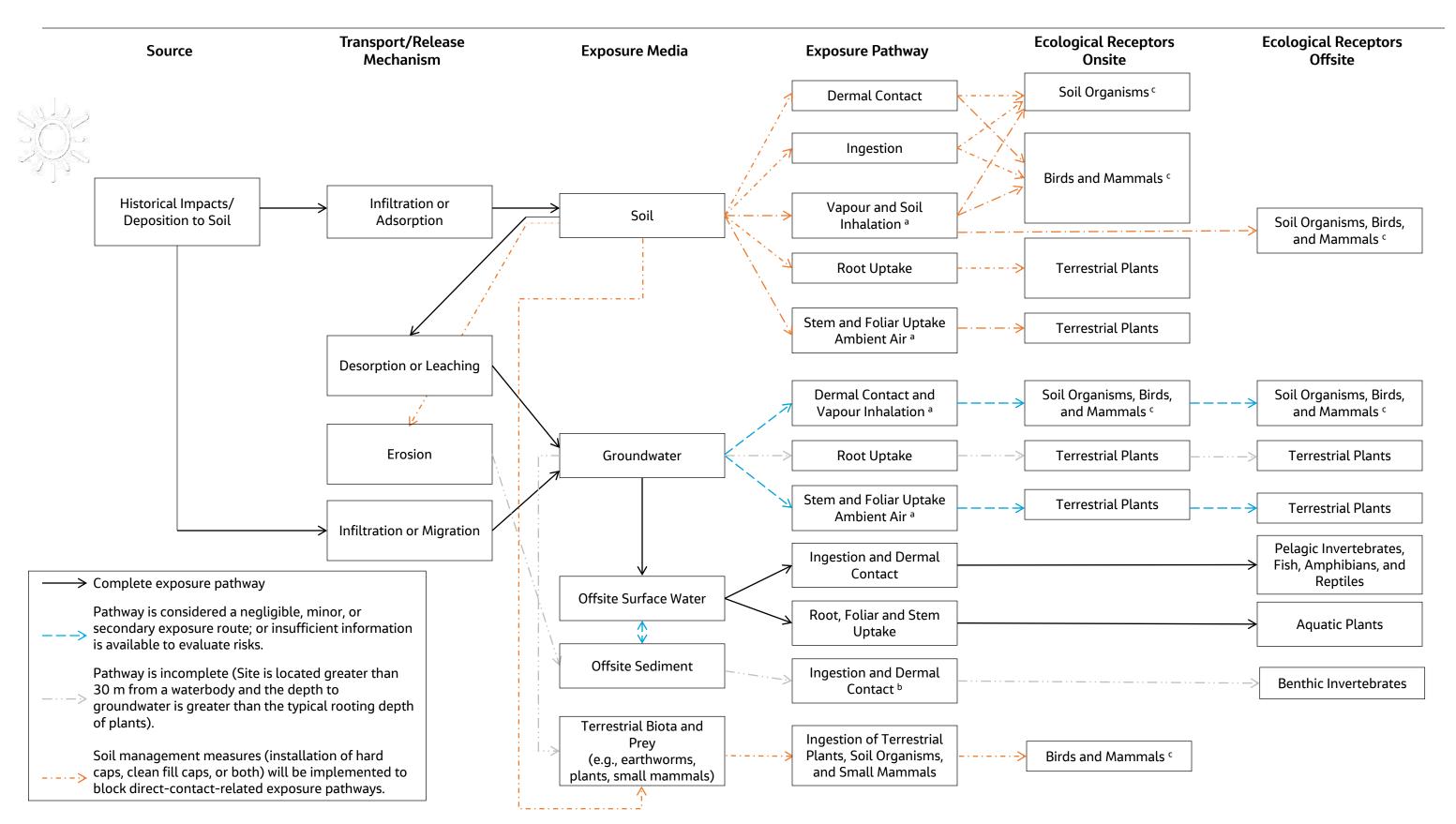
Notes:

- a. Vapour and soil inhalation, and uptake of ambient air are secondary routes of exposure; limited toxicological information is available to evaluate these pathways.
- b. Pathway considered incomplete under current conditions and will also be considered incomplete under future redevelopment conditions.
- c. The VECs are consistent with those in the MECP Modified Generic Risk Assessment Model: Earthworms for soil organisms; American Woodcock, Redwinged Blackbird, and Red-tailed Hawk for birds; Meadow Vole, Red Fox, and Short-tailed Shrew for mammals.

Figure 6-21a. Ecological Conceptual Site Model without Risk Management Measures

55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario





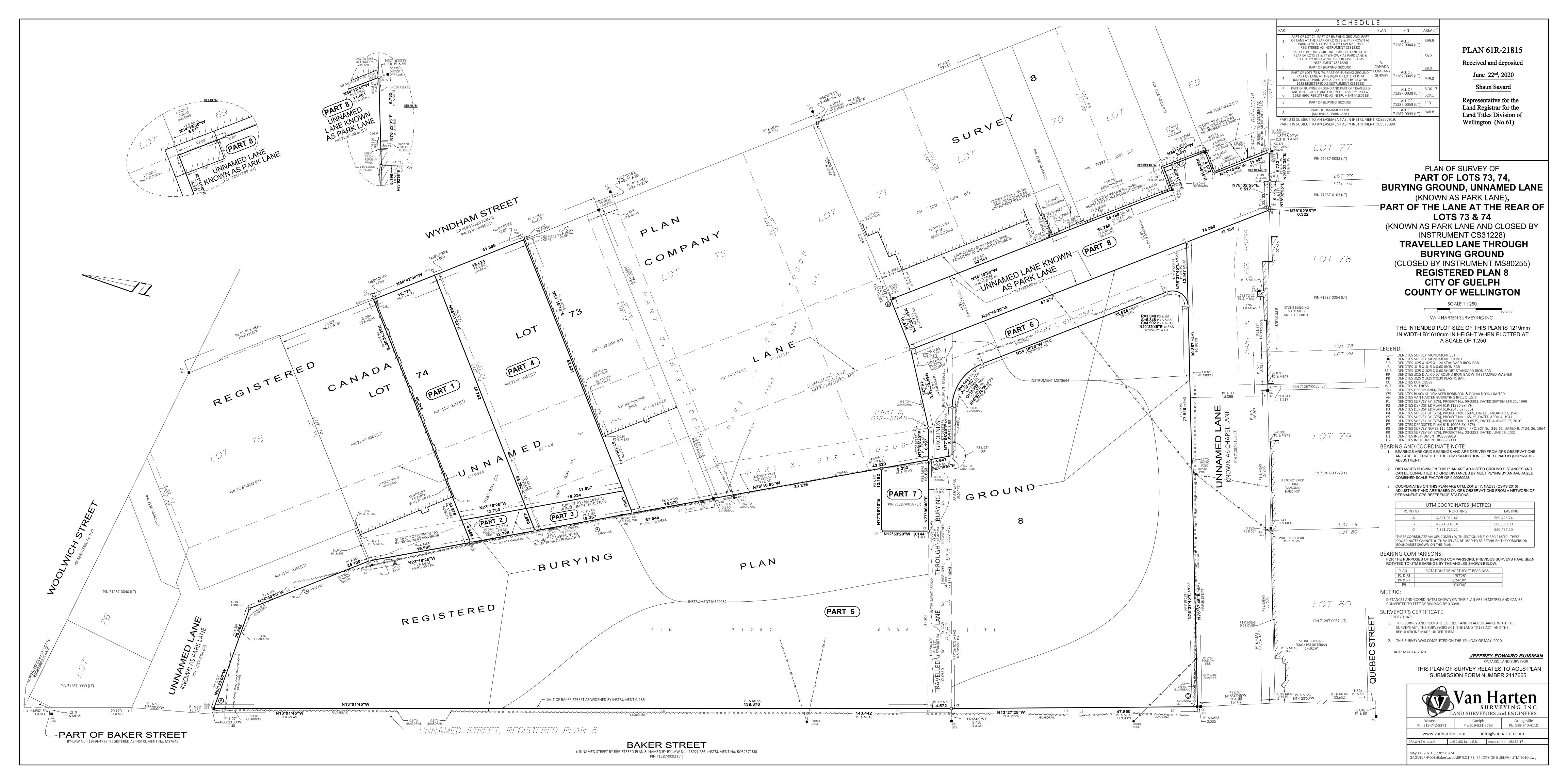
Notes:

- a. Vapour and soil inhalation, and uptake of ambient air are secondary routes of exposure; limited toxicological information is available to evaluate these pathways.
- b. Pathway considered incomplete under current conditions and will also be considered incomplete under future redevelopment conditions.
- c. The VECs are consistent with those in the MECP Modified Generic Risk Assessment Model: Earthworms for soil organisms; American Woodcock, Red-winged Blackbird, and Red-tailed Hawk for birds; Meadow Vole, Red Fox, and Short-tailed Shrew for mammals.

Figure 6-21b. Ecological Conceptual Site Model with Risk
Management Measures
55 Baker Street, 152 and 160 Wyndham Street North, and
Park Lane, Guelph, Ontario



Appendix A Plan of Survey



Appendix B Sampling and Analysis Plan

Table B-1. Sampling and Analysis Plan - July to August, 2019

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

						Phase Tv	vo Envi	ronmei	ntal Site	e Assessm	ent	
Boring ID	Type of Location	Media	Number of Locations	Approximate Depth (mbgs)	Metals (O.Reg. 153/04)	Inorganics (Free Cyanide, pH, EC and SAR)	PHCs F1-F4 incl. BTEX	PHCs F2-F4	РАНѕ	VOCs	ABNs	Purpose and Justification Field Instructions
BH200	new	soil	1	4.8	3	3	3		3	3 2		To characterize overburden soil for metals, inorganics, PHCs, PAHs and PCBs based on presence of former transformer station, former industrial property use, unknown poor quality fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold. PCB samples to be collected 0-0.3 and 0.3 to 0.6 mbgs, submit deeper sample on hold. HSA to top of bedrock, confirm bedrock with SS.
BH201	new	soil	1	7.2	4	4	4		4	4		To characterize overburden soil for metals, inorganics, PHCs, PAHs, and VOCs based on presence of former industrial property use, unknown poor quality fill material and use of road salts (APEC#1, 2, 4). Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts], silt [worst case or min. 0.5 m below impacts], silt [worst case or min. 0.5 m below impacts], silt [worst case or min. 0.5 m below impacts], silt [worst case or min. 0.5 m below impacts], sample from bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS. To characterize geotechnical conditions including soil characteristics, penetration tests, bearing capacity, and compression tests. Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
BH202	new	soil	1	5	3	3	3		3	3		To characterize overburden soil for metals, inorganics, PHCs, PAHs, and VOCs based on presence of former industrial property use, unknown poor quality fill material and use of road salts (APEC#1, 2, 4). Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts] and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS.
BH203	new	soil	1	5	3	3	3		3	3		To characterize overburden soil for metals, inorganics, PHCs, PAHs, and VOCs based on presence of unknown poor quality fill material and use of road salts (APEC#2, 4). To characterize geotechnical conditions including soil characteristics, penetration tests, bearing capacity, and compression tests. Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts] and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS. Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
BH204	new	soil	1	5	3	3	3		3	3		To characterize overburden soil for metals, inorganics, PHCs, PAHs, and VOCs based on presence of unknown poor quality fill material and use of road salts (APEC#2, 4). To characterize geotechnical conditions including soil characteristics, penetration tests, bearing capacity, and compression tests. Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts] and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold (submit FOC). HSA to top of bedrock, confirm bedrock with SS. Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
BH205	new	soil	1	5	3	3	3		3	3		To characterize soil for metals, inorganics, PHCs, PAHs, and VOCs based on former industrial property use, unknown poor quality fill material and use of road salts (APEC#2, 4). Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts] and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS.

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Table B-1. Sampling and Analysis Plan - July to August, 2019

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

						Phase Tw	o Envi	ronmen	tal Site	Assessme	ent	
Boring ID	Type of Location	Media	Number of Locations	Approximate Depth (mbgs)	Metals (O.Reg. 153/04)	norganics (Free Cyanide, pH, EC and SAR)	PHCs F1-F4 incl. BTEX	PHG F2-F4	PAHS	VOCs	ABNs	Purpose and Justification Field Instructions
ВН206	new	soil	1	6	4	4	4		4	4		To characterize overburden soil for metals, inorganics, PHCs, PAHs, and VOCs based on presence of former industrial property use, unknown poor quality fill material and use of road salts (APEC#2, 4). Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts], silt [worst case or min. 0.5 m below impacts from unit above], and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold (submit FOC). HSA to top of bedrock, confirm bedrock with SS, HQ core thereafter to target depth. Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
MW100	new	soil	1	7.5 (soil) 13 (bedrock)	3	3	3		3	3		To characterize overburden soil and groundwater for metals, inorganics, PHCs, PAHs and VOCs based on presence of former AST and former industrial property use (APEC#1, 2, 4, 10, 11, 12). Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts] and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold (submit FOC). HSA to top of bedrock, confirm bedrock with SS, HQ core thereafter to target depth.
	eu	groundwater	_	9	1	1	1		1	1		To characterize deep geotechnical conditions including soil characteristics, penetration tests, bearing capacity, and compression tests. MW100 install a 3.05 m screen to straddle the water table, bentonite chip seal. Backfill corehole with bentonite chips as required Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
MW101	new	soil	1	5 (soil) 13 (bedrock)	3	3	3		3	3		To characterize overburden soil and groundwater (shallow and deep) for metals, inorganics, PHCs, PAHs, and VOCs based on presence of unknown poor quality fill material and use of road salts (APEC#2, 4). Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts] and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS, HQ core thereafter to target depth.
		groundwater		11	1	1	1		1	1		To characterize geotechnical conditions including soil characteristics, penetration tests, bearing capacity, and compression tests. MW101 install a 3.05 m screen to straddle the water table, bentonite chip seal. Backfill corehole with bentonite chips as required. Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
	-	soil		7 (soil) 13 (bedrock)	4	4	4		4	4		To characterize overburden soil for metals, inorganics, PHCs, PAHs, and VOCs based on presence of off-site former dry cleaning operations, former retail fuel outlet, automotive repair, and of on-site presence of former industrial property repair, and of on-site presence of former industrial property
MW102A & MW102B	new	groundwater (MW102A)	2	5	1	1	1		1	1		use, unknown poor quality fill material and use of road salts (APEC#1, 2, 4, 5, 6, 7, 17). MW102A install a 3.05 m screen water bearing overburden (likely above silt, if present) to straddle pearched water table, bentonite chip seal. MW102B install minimum 1.52 m screen to straddle bedrock water table, screen wholly in the bedrock with minimum 0.6 m seal in the bedrock, bentonite grout seal above. Backfill corehole with bentonite chips a required.
		groundwater (MW102B)		9	1	1	1		1	1		characteristics, penetration tests, bearing capacity, and compression tests. Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
MW103	new -	soil	1	7 (soil) 9 (bedrock)	4	4	4		4	4		To characterize overburden soil and groundwater for metals, inorganics, PHCs, PAHs, and VOCs based on presence of offsite former fuel oil UST, offsite former automotive repair and of on-site presence of former industrial property use,
		groundwater		9	1	1	1		1	1		unknown poor quality fill material and use of road salts (APEC#1, 2, 4, 9, 10). Install 3.05 m screen to straddle water table, if water bearing overbuden unit present place screen in soil, if not, core to target depth to screen water table in bedrock, bentonite chip seal.

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Table B-1. Sampling and Analysis Plan - July to August, 2019

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

						Phase Tw	o Envi	ronmen	tal Site	Assessme	ent	
Boring ID	Type of Location	Media	Number of Locations	Approximate Depth (mbgs)	Metals (O.Reg. 153/04)	Inorganics (Free Cyanide, pH, EC and SAR)	PHCs F1-F4 incl. BTEX	PHCs F2-F4	РАНѕ	VOCS	ABNs	Purpose and Justification Field Instructions
MW104	new	soil	1	7 (soil) 9 (bedrock)	4	4	4		4	4	4	To characterize overburden soil and groundwater for metals, inorganics, PHCs, PAHs, and VOCs based on presence of off-site former automotive repair and former industrical Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts], silt [worst case or min. 0.5 m below impacts from unit above], and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS, HQ core thereafter to target depth.
		groundwater		9	1	1	1		1	1	1	property use, and of on-site presence of former industrial property use, unknown poor quality fill material and use of road salts (APEC#1, 2, 4, 8, 10, 12). Install 3.05 m screen to straddle water table, if water bearing overbuden unit present place screen in soil, if not, core to target depth to screen water table in bedrock, bentonite chip seal.
MW105	new	soil	1	5 (soil) 9 (bedrock)	3	3	3		3	3		Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts] and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS, HQ core thereafter to target depth.
		groundwater		9	1	1	1		1	1		property use, unknown poor quality fill material and use of road salts (APEC#1, 2, 4, 11). Install 3.05 m screen to straddle water table, if water bearing overbuden unit present place screen in soil, if not, core to target depth to screen water table in bedrock, bentonite chip seal.
MW106	new	soil	1	5 (soil) 13 (bedrock)	3	3	3		3	3		To characterize soil, shallow and deep groundwater for metals, inorganics, PHCs, PAHs, and VOCs, based on presence of historical gasoline spill and UST, as well as former industrial property use, unknown poor quality fill material and use of road salts (APEC#2, 4, 14, 16). Collect 1 sample from each stratigraphic layer (worst case fill, suspected clean native [min. 0.5 m below impacts] and bottom of bohehole [top of rock]) for all parameters, submit fill and suspected clean sample for analysis, sample from bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS, HQ core thereafter to target depth.
IVIVV 100	new	groundwater		9	1	1	1		1	1		MW106 install a 3.05 m screen to straddle the water table, bentonite chip seal. Backfill corehole with bentonite chips as required. To characterize geotechnical conditions including soil characteristics, penetration tests, bearing capacity, and compression tests. Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
MW107	new	soil	1	5	3	3	3		3	3		To characterize overburden soil and groundwater for metals, inorganics, PHCs, PAHs, and VOCs based on former oil house shed, presence of unknown poor quality fill material and use of road salts (APEC#2, 4, 18).
1444 167	new	groundwater		9	1	1	1		1	1		To characterize geotechnical conditions including soil characteristics, penetration tests, bearing capacity, and compression tests. Install 3.05 m screen to straddle water table, bentonite chip seal. Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
MW108	now	soil	1	7 (soil) 13 (bedrock)	4	4	4		4	4		To characterize overburden soil and ground water (shallow and deep) for metals, inorganics, PHCs, PAHs, VOCs and dioxans/furans (soil only) based on presence of off-site dry former dry cleaners and of on-site former industrial property use, historical fire event, unknown poor quality fill material
141 AA TOO	new ·	groundwater	1	9.5	1	1	1		1	1		and use of road salts (APEC#2, 4, 8). Install 3.05 m screen to straddle water table, if water bearing overbuden unit present place screen in soil, if not, core to target depth and screen water table in bedrock, bentonite chips as required. To characterize geotechnical conditions including soil characteristics, penetration tests, bearing capacity, and compression tests. Collect soil samples for geotechnical testing (including moisture, grain size, Attenberg limits and compression testing).
MW109	new	soil	1	5.3 (soil) 9 (bedrock)	4	4	4		4	4		To characterize overburden soil for metals, inorganics, PHCs, PAHs, VOCs and dioxans/furans based on presence of off-site dry former automotive garage and of on-site former (by the content of the conte
		groundwater		9	1	1	1		1	1		industrial property use, historical fire event, former oil house, unknown poor quality fill material and use of road salts (APEC#2, 4, 13, 19). Install 3.05 m screen to straddle water table, if water bearing overbuden unit present place screen in soil, if not, core to target depth to screen water table in bedrock.

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Table B-2. Sampling and Analysis Plan - September to December 2019

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

						Phase Tw	vo Environr	nental Site A	ssessm	ent		
Boring ID	Type of Location	Media	Number of Locations	Approximate Depth (mbgs)	Metals (O.Reg. 153/04)	Inorganics (Free Cyanide, pH, EC and SAR)	PHCs F1-F4 incl. BTEX	PAHS	VOCS	ABNS	Purpose and Justification	Field Instructions
ВН207	new	soil	1	2.5			3				Historical exceedance (XCG 2008) of PHC F3 and F4 at BH-10 from 0.0 - 0.60 mbgs. Confirm soil quality in engineered fill material from 0.0 to max 0.6 mgbs, and vertical delineation.	Sample engineered fill beneath asphalt from same depth as exceedance 0-0.6 mbgs, ensure no asphalt pieces. Collect 2nd sample from bottom of fill/below exceedance (previous boring terminated at 0.76 mbgs) from unimpacted fill, if present. If no field evidence of PHC impact in the fill, collect samples 1 and 2 regardless. Collect third sample from suspected clean native (min. 0.5 m below impacts). Submit first 2 samples for analysis and place 3rd sample on hold pending analysis of samples above.
BH208	new	soil	1	4.5				3			Vertical delineation of historical exceedance (XCG 2008) of PAHs at BH-14 from 0.8 - 1.4 mbgs.	Collect 1st sample from historical exceedance at approx. 1.0 mbgs. Collect 2nd fill sample below exceedance (previous boring terminated at 1.83 mbgs, possible concrete floor) from unimpacted fill, if present. Collect third sample from suspected clean native (min. 0.5 m below impacts). Submit 1st and 2nd sample for analysis, and place 3rd sample on hold pending analysis of sample above.
вн209	new	soil	1	3	3				17	2	Vertical and lateral delineation of Metals and PCBs at SA9 from surficial soil sample.	Sample upper fill for metals just below asphalt, second sample from lower fill (goes to 2.19 in adjacent BH200) and third from suspected clean native (min. 0.5 m below impacts) and place 3rd sample on hold pending analysis of sample above. Collect 3 samples for PCBs analysis, 1st from aggregate 0 to 0.1 mbgs, 2nd from upper 15 cm immediately beneath the aggregate fill material, and 3rd from a 15 cm interval chosen based on field observations, either located 30 cm beneath the 2nd sample, the bottom of the fill layer, or the top of the underlying native soil. Submit the 1st and 2nd sample for PCB analysis, submit the 3rd sample on hold pending analysis of samples above. ***See figure for sample collection locations - For PCB samples collect 3 additional sets at locations as per figure (BH209N, W, S) with same depths as detailed above, place all these samples on hold.
BH210	new	soil	1	3	3						Vertical delineation of historical exceedance (Kewen 2001) of Zinc at BH2 from 0.8 - 1.4 mbgs.	Previous boring has fill to 1.8 mbgs. Collect 1st sample from fill at approx. 1.0 mbgs to confirm historical datapoint, collect 2nd sample from bottom of fill material. at approx. 1.8 mbgs. Collect third sample from suspected clean native (min. 15 cm into the native soil and 0.5 m below impacts). Submit 1st and 2nd sample for analysis for metals, place 3rd sample on hold pending analysis of sample above.
BH211	new	soil	1	4.5	3						Vertical delineation of historical exceedance (XCG 2008) of lead at BH-6 from 3.1 - 3.7 mbgs.	Collect 1st sample from approximately 2.5 mbgs which is meant to be at least 0.5 metre above the historical datapoint; target the bottom of fill material. Collect 2nd sample from depth of previous exceedance in sand to confirm result. Collect 3rd sample from above bedrock 4.27 mbgs (XCG 2008). Submit the 2nd sample for analysis for metals, place 1st and 3rd samples on hold pending analysis of 2nd sample.
MW100	existing	groundwater	1	9	1	1	1	1	1			
MW101	existing	groundwater	1	11	1	1	1	1	1			
MW102A	existing	groundwater	1	5	1	1	1	1	1			
MW102B	existing	groundwater	1	9	1	1	1	1	1			
MW103	existing	groundwater	1	9	1	1	1	1	1			
MW104	existing	groundwater	1	9	1	1	1	1	1	1	Resample to confirm previous results, ABNs added at	Sample with low flow methods
MW105	existing	groundwater	1	9	1	1	1	1	1		MW104 for characterizing for coke storage (phenol)	
MW106	existing	groundwater	1	9	1	1	1	1	1	1	1	
MW107	existing	groundwater	1	9	1	1	1	1	1			
MW108	existing	groundwater	1	9.5	1	1	1	1	1		7	
MW109	existing	groundwater	1	9	1	1	1	1	1		1	
	CAISE 15	5. Januaratei	-		-			+ +	-	+		PQ core to approximately 12 mbgs, ream/temporary set HW casing, HQ core to 15.5 mbgs, install 1.52 m screen with 15 cm sand above, 0.6 m peltonite seal and grout to surface
MW107B	new	groundwater	1	5 (soil) 15.5 (bedrock)	2						Vertical delineation of Cadmium at MW107	Change core water between PQ an HQ coring. Collect second GW sample at least 2 weeks after first sample to confirm results
MW110A MW110B	new	groundwater	2	5.3 (soil) 8.5 (MW110A) 15.5(MW110B)	4						Vertical and lateral delineation of Cadmium at MW107	MW110B - PQ core to approximately 12 mbgs, ream/temporary set HW casing, HQ core to 15.5 mbgs, install 1.52 m screen with 15 cm sand above, 0.6 m peltonite seal and grou to surface. Change core water between PQ an HQ coring. Install MW110 at target depth, 3.05 m screen to intercept water table. Collect second GW sample at least 2 weeks after first sample to confirm results
MW111	new	groundwater	1	6.9 (soil) 15.5 (bedrock)	2						Vertical and lateral delineation of Cadmium at MW107 and historical exceedance at BH5 (JWEL) (sample from XCG 2008).	PQ core to approximately 12 mbgs, ream/temporary placement of HW casing, HQ core to 15.5 mbgs, install 1.52 m screen with 15 cm sand above, 0.6 m peltonite seal and grout to surface. Change core water between PQ an HQ coring. Collect second GW sample at least 2 weeks after first sample to confirm results

Note:

ABN - acid/base/neutral compounds

APEC = area of potential concern

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Table B-2. Sampling and Analysis Plan - September to December 2019

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

			Phase Two Environmental Site Assessment		
Boring ID	Type of Media	Number of Locations	Metals (O.Reg. 153/04) Inorganics (Free Cyanide, pH, EC and SAR) PHCs F1-F4 incl. BTEX PHCs F1-F4 PAHs VOCs ABNS	Purpose and Justification	Field Instructions

BTEX = benzene toluene ethylbenzene xylene

EC = Electrical Conductivity

F = fraction

FOC = fraction of organic carbon

ID = Identification

PAHs = polycyclic aromatic hydtrocarbons

PHCs = petroleum hydrocarbons

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Table B-3. Sampling and Analysis Plan - January 2020

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

					Phase 1	wo Env	vironme	ental Si	te Asse	ssmen	t	
Boring ID	Type of Location	Media	Number of Locations	Approximate Depth (mbgs)	Metals (O.Reg. 153/04) Inorganics (Free Cyanide, pH, EC	PHCs F1-F4 incl. BTEX	PHCs F1-F4	PAHs	VOCs	PCBs	ABNs	Purpose and Justification Field Instructions
MW112	new	soil	1	5.6 (soil) 8.5 (bedrock)		4		4	4			NEED Direction from ARA on ability to daylight. Location in area of numerous underground and overhead utilities. Location of well is to be installed with 5 ft clearance from all. Two closest BH/MWs are MW106 and 107 show: asphalt, then fill to 0.91/2.21, coarse sand/sand&gravel (5.66/4.98), bedrock to depth, static water 7 and 6.5 mbgs (about 1.5m into bedrock both wells). Note, fine-grained silt overburden unit prevalent in north portion of site, not anticipated to occur. APEC sources are an offsite fuel oil AST in a basement, and gasoline spill; with sand/gravel fill not expecting any shallow soil/fill impact. With ARA clearances and potential need for daylighting to depth of utilities/fill, field assessment/sampling of upper overburden likely challenging. Need field opinion/evidence and documentation that no shallow fuel oil/gasoline in fill material. Discuss with office when in field as needed. If field evidence of fuel oil/gasoline in overburden, collect worst case sample where it occurs and discuss with PM before submitting for analysis. Otherwise collect 1 sample from each stratigraphic layer with the exception of the top 1.5m of fill (as stated above) from lower portion of fill material (if fill extends to 2+mbgs), suspected clean native (min. 0.5 m below impacts), silt if present (worst case or min. 0.5 m below transition or impacts from unit above), and bottom of bohehole (top of rock) for all parameters. Submit shallow native soil sample for analysis, sample from fill and bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS, HQ core thereafter to target depth. To characterize overburden soil and shallow groundwater for PHCs, PAHs, and VOCs based on presence of a former offsite fuel oil tank and a historical spill of gasoline in 2003 In bedrock, bentonite chip seal.
	w	groundwater		8.5		2		2	2			(APEC#14, 16). Closest boring MW106 shows: asphalt, fill to 0.91, coarse sand/sand & gravel to top of bedrock at 5.66, static water at ~7 mbgs. Within sand/gravel fill not expecting any shallow soil/fill impact. If field evidence of fuel oil/gasoline in overburden, collect worst case sample where it occurs and discuss with PM before submitting for analysis. Sample for PHCs, PAHs and VOCs at all sample intervals. If fill is less then 1.5 m and there is no evidence of fuleoil/gasoline impacts do not sample fill, if fill is greater then 1.5 m collect bottom of fill or depth of fuel oil/gasoline impacts if present. Collect second sample from suspected clean native (min. 0.5 m below impacts or fill above), if fuel oil/gasoline impacts present in native soil collect worst case, and third sample from suspected clean below (min. 0.5 m below impacts). Collect fouth sample from bottom of bothehole (top of rock) and submit on hold. Discuss with PM prior to lab submittal which samples to be placed on hold based off field evidence. HSA to top of bedrock, confirm bedrock with SS, HQ core thereafter to target depth. Place 3.05 m screen at bottom of corehole, if water bearing overbuden unit present discuss with PM prior to placement of screen in overburden soil, if not, core to target depth to screen water table, bentonite chip seal. Collect second GW sample at least 2 weeks after first sample to confirm results

Note:

APEC = area of potential concern

BTEX = benzene toluene ethylbenzene xylene

ID = Identification

PAHs = polycyclic aromatic hydtrocarbons

PHCs = petroleum hydrocarbons

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Table B-4. Sampling and Analysis Plan - March 2020

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

		,			Pha		nvironm essment		e	
Boring ID	Type of Location	Media	Number of Locations	Approximate Depth (mbgs)	Metals (O.Reg. 153/04)	Inorganics (Free Cyanide, pH, EC and SAR)	PHCs F1-F4	PAHs	Purpose and Justification	Field Instructions
ВН207і		soil		1.0			2		F1 PHCs were missing from the original BH207 to investigat the historical F2 and F3 PHC exceedances at BH-10 at 0-0.6 mbgs. Resample to collect full PHCs.	If ollect a PHC sample from below the asphalt, at an interval that will ensure absolutely no asphalt within the sample. First sample should be collected to a depth of 0,6 mbgs (i.e.).
MW113	new	soil	1	5.6 (soil) 8.5 (bedrock)	4	4	4	4	Change to RSC property line (south), additional well to replace MW106/MW112 for APEC characterization, delineation and groundwater flow at the new property boundary. Characterize overburden soil and shallow groundwater for PHCs, PAHs, and VOCs based on presence of a former offsite fuel oil tank and a historical spill of gasoline in 2003 (APEC#14, 16).	Location in area overhead utilities. Adjust location in field with appropriate clearance from all during private locates. No archaelogical clearance needed by ARA as in an area previously assessed (2006). Two closest BH/MWs (now off-Site) are MW106 and MW112; expect asphalt, then fill to 0.6/0.91, coarse sand/sand&gravel (5.5/4.98), bedrock to depth, static water 7 and 6.1 mbgs (about 1.5m into bedrock both wells). Note, fine-grained silt overburden unit prevalent in north portion of site, not anticipated to occur. APEC sources are an offsite fuel oil AST in a basement, and gasoline spill; with sand/gravel fill not expecting any shallow soil/fill impact. MW112 and MW106 did not see any related impacts. With previous ARA clearances (ie testpitting) stratigraphic units may mixed to the depth of the previous assessments (ranging from 1.0 to 1.6 m). Need field opinion/evidence and documentation that no shallow fuel oil/gasoline in fill material. Sample for Metals/Inorganics, PHCs, PAHs and VOCs at all sample intervals. If field evidence of fuel oil/gasoline in overburden, collect worst case sample where it occurs. Up to four soil samples to be collected: first sample from the "mixed" stratigraphic layer previously disturbed by ARA, estimated to be the top 1.5m of fill (as stated above), second from lower portion (undisturbed) fill material (if present or if fill extends to 2+mbgs), third from suspected clean native (min. 0.5 m below transition), and fourth from bottom of bohehole (top of rock). Submit first two depths of soil samples for analysis, sample from native and bottom of borehole to be submitted on hold. HSA to top of bedrock, confirm bedrock with SS, Air rotary to target depth.
		groundwater		8.5	2	2	2	2	2	Install 3.05 m screen at bottom of corehole, at a depth to straddle water table (6.1 and 7 mbgs in MW106/MW112), anticipate top of screen approximately coincident with top of bedrock, screen must be minimum of 1.25 metre above anticipated static water elevation, if water bearing overbuden unit present discuss with PM prior to placement of screen in overburden soil, if not, core to target depth to screen water table in bedrock, bentonite chip seal. Collect GW sample for Metals, PHCs, PAHs and VOCs. Collect second GW sample at least 5 days after first sample to confirm results.

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Appendix C Borehole and Monitoring Well Logs

JACOBS

RECORD OF BOREHOLE: BH200

CLIENT: City of Guelph

LOCATION: 55 Baker Street PROJECT NUMBER: CE751900

LOGGED BY: A. Vermeersch/A. Casey

DATE DRILLED: August 12, 2019

DRILLER: Aardvark Drilling Inc.

DRILL RIG: CME 75 Rotary Power DRILL METHOD: 108 mm HSA

GROUND ELEVATION: 329.44 masl

NORTHING: 0560498.4

EASTING: 4821788.6

BOREHOLE DIAMETER: 210 mm

		<u> </u>	1. VC	rmeersch/A. C	asey DRILL METHOD: 108 mm HS	· · · · · · · · · · · · · · · · · · ·			BOREHOLE DIAMETE			
			SAM			<u> </u>	(masl)	BORE	HOLE COMPLETION DETAILS	ORGA	NIC VAPO (ppr 10.6 eV PI	UR REA
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		20		60 8
		∵G1 :			ASPHALT: FILL: Sand with Gravel, brown, dry, medium to coarse grained.		329.36 0.08		Borehole backfilled with bentonite upon completion	⊕ ^{3.1}		
1		∵G2-∷		Metals & Inorg. PAHs PHCs	- Some cobbles, increased coarse sand below 0.58 mbgs. Silty Sand, medium to dark brown, moist, fine grained, trace gravel. - 30 cm seam pieces of asphalt and concrete at 1.02 mbgs, medium brown and some cobbles below 1.02 mbgs.		3 <u>28.75</u> 0.69			⊕7.0		
		:G3::		VOCs PCBs (11:00) (0.89-1.01)	brown and some cobbles below 1.02 mbgs. - Light brown below 1.40 mbgs. - 3 cm seam of mortar, some brick at 1.45 mbgs.					⊕2.0		
2	75	\$\$1	10				327.25			⊕ ^{4.5}		
	79	SS2	50+	Metals & Inorg. PAHs PHCs VOCs (12:06) (2:29-2:90)	SAND WITH SILT: Brown, dense, dry, fine to medium, some fine gravel.		2.19					73. W
3	63	\$\$3	39							∌ ^{2.4}		
4	75	\$\$4	46		SAND: Black and white, dry to moist, trace small gravel. SILTY SAND: Brown, medium dense to dense, dry, fine to medium sand, trace gravel.		325.61 3.83 325.53 3.91			⊕6.4		
5	74	SS5	28	SAR (12:33) (4.57-5.18)	- 28 cm cobble (Guelph formation dolostone) at 4.50 mbgs. - Light brown, dry, fine below 5.13 mbgs.					⊕ ^{5.8}		
	14	\$\$6	50/ 2cm		GUELPH FORMATION DOLOSTONE: Buff. Bottom of borehole at 5.51 mbgs - 0 to 1.75 mbgs completed via test pit excavation on July 23, 2019 during archaeological investigation with CASE 580 backhoe, test pit		324.11 5.33 323.93 5.51	323.93 5.51				
6					backfilled with excavated material upon completion Sampler refusal on bedrock at 5.51 mbgs.							
7												

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Notes: 1. Information to be used for intrepretation of environmental conditions only

Prepared by: MS

JACOBS

RECORD OF BOREHOLE: BH201

CLIENT: City of Guelph LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

DATE DRILLED: August 21, 2019 DRILLER: Aardvark Drilling Inc.

DRILL RIG: CME 75 Rotary Power

GROUND ELEVATION: 330.16 masl

NORTHING: 0560443.0

EASTING: 4821850.6

LOG	GED	BY: J	J. Ryl	bicki/V. Peters	DRILL METHOD: 108 mm l	HSA			BOREHOLE DIAMETI	ER: 210 m	nm
			SAM			ОТ	(masl)	BORE	HOLE COMPLETION DETAILS	ORGANIC 10.6	VAPOUR REA (ppm) S eV PID BULB
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)			40 60 8
		G1 :		Metals & Inorg. PAHs PHCs VOCs Grain Size (10:15) (0.30-0.46)	ASPHALT: FILL: Sand and Gravel, light brown, dry. Silty Sand, brown, moist, some coarse gravel and cobbles (decreasing with depth), trace coarse sand and clay.		330.04 0.12 329.70 0.46		Borehole backfilled with bentonite upon completion	⊕ ^{1.6} ⊕ ^{4.8}	
1	67	G3 G4 SS1	7	Metals & Inorg. PAHs PHCs VOCs (10:30) (1.22-1.37)						⊕ ^{5.2} ⊕ ^{5.6} ⊕ ^{7.8}	
2		\$\$2	31	Metals & Inorg. PAHs PHCs VOCs (15:31) (2:29-2:90)	SILT AND SAND: Brown, very dense, moist, trace clay, trace gravel.		327.97 2.19			14.9 U	
3	83	\$\$3	51	DHC o	SAND: Brown, very dense, moist, some silt, trace gravel.		326.78 3.38			13.8 ₩	
4		\$84	50/ 5cm	PHCs VOCs (15:49) (3.81-3.94) SAR EC (15:49) (3.94-4.01)	SILT AND SAND: Brown, very dense, moist, trace clay, trace gravel, trace cinders.		326.22 3.94			⊕7.4	58.8 1
5		\$\$5 \$\$6	50/ 5cm							24.0 W	
6	100	\$\$7	50/ 13cm		CLAYEY SANDY SILT TILL: Grey, hard, moist, trace gravel, slight oxidation.		324.37 5.79			⊕ ^{1.7}	
7		SS8	50/ 13cm							Φ ^{9.9}	
		SS9	83	SAR EC (16:43) (7.62-8.23)						⊕ ^{1.9}	

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Notes: 1. Information to be used for intrepretation of environmental conditions only

Prepared by: MS

JACOBS

RECORD OF BOREHOLE: BH201

CLIENT: City of Guelph LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

LOGGED BY: J. Rybicki/V. Peters

DATE DRILLED: August 21, 2019

DRILLER: Aardvark Drilling Inc. DRILL RIG: CME 75 Rotary Power

DRILL METHOD: 108 mm HSA

GROUND ELEVATION: 330.16 masl

NORTHING: 0560443.0

EASTING: 4821850.6

BOREHOLE DIAMETER: 210 mm

			SAME	PLE				BORE	HOLE COMPLETION DETAILS	ORG	ANIC V	(APOU	R REA
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)	22. Som EL NON BETTALO		10.6 e		BULB
9	98 0	<u>SS10</u> SS11	50/ 5cm 50/ 3cm		Some gravel below 8.38 mbgs. GUELPH FORMATION DOLOSTONE; Buff. Bottom of borehole at 8.46 mbgs - 0 to 1.68 mbgs completed via test pit excavation on July 24, 2019 during archaeological investigation with CASE 580 backhoe, test p backfilled with excavated material upon completion.		321.73 8.43 321.70 8.46	321.70 8.46					
10													
11													
12													
13													
14													
13 14 15													

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MASTER

Notes:
1. Information to be used for intrepretation of environmental conditions only

Prepared by: MS

RECORD OF BOREHOLE: BH202

CLIENT: City of Guelph

LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

DATE DRILLED: August 12, 2019

DRILLER: Aardvark Drilling Inc.

DRILL RIG: CME 75 Rotary Power DRILL METHOD: 108 mm HSA

GROUND ELEVATION: 329.99 masl

NORTHING: 0560483.9

EASTING: 4821816.7

			SAM					BORE	HOLE COMPLETION DETAILS	ORGANIC VAI	POUR REA opm) PID BULB
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		20 40	
		G1			ASPHALT: FILL: Sand and Gravel, brown, moist Increased coarse gravel below 0.30 mbgs.		329.87 0.12 329.43		Borehole backfilled with bentonite upon completion	⊕ ^{7.2}	
1	54	G2 G3 SS1	28	Metals & Inorg. PAHs PHCs VOCs Grain Size (15:50) (0.61-0.76)	Silty Sand, brown, moist, fine, some fine to coarse gravel and cobbles, trace medium to coarse sand, brick and cast iron pipe observed. SILTY SAND: Light brown, moist, fine, some fine to coarse gravel and cobbles, trace medium to coarse sand.		0.56 329.18 0.81			⊕ ^{8.5} ⊕ ^{7.3} ⊕ ^{5.2}	
2	67	\$\$2	45		- Cobble from 1.45 to 1.65 mbgs.					⊕ ^{7.6}	
3	58	SS3	41		SANDY SILT: Light brown to brown, medium dense, dry, low plasticity, fine sand, trace fine gravel, increased moisture top 15 cm		327.55 2.44			⊕ ^{4.3}	
3	92	SS4	27	Metals & Inorg. PAHs PHCs VOCs (14:20) (3.05-3.66)						⊕ ^{4.9}	
4	88	\$\$5	28		SAND: Black with some white, dry, coarse, poorly graded. SILTY SAND: Light brown to brown, dry to moist, fine sand.		325.72 4.27 325.65 4.34			⊕ ^{4.3}	
5	87	SS6	50/ 8cm	SAR EC (14:43) (4.57-5.03)	GUELPH FORMATION DOLOSTONE: Buff to light brown.		324.96 5.03	324.94 5.05			
					Bottom of borehole at 5.05 mbgs - 0 to 1.02 mbgs completed via test pit excavation on July 22, 2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon completion.		324.94 5.05				
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Notes: 1. Information to be used for intrepretation of environmental conditions only

RECORD OF BOREHOLE: BH203

CLIENT: City of Guelph LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

DATE DRILLED: August 20, 2019

DRILLER: Aardvark Drilling Inc. DRILL RIG: CME 75 Rotary Power DRILL METHOD: 108 mm HSA

GROUND ELEVATION: 328.66 masl

NORTHING: 0560516.2 EASTING: 4821749.3

LOG	GEL	л Б Ү : С		bicki/V. Peters	DRILL METHOD: 108 mm	15A			BOREHOLE DIAMETI		C VAPOUR RE
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)	HOLE COMPLETION DETAILS	10.	(ppm) 6 eV PID BULI 40 60
-		SS1	31	Metals & Inorg. PAHs PHCs VOCs	FILL: Sand and Gravel, brown with pink and red, dense, moist, trace slit, trace brick, trace asphalt.		328.53 0.13		Borehole backfilled with bentonite upon completion	⊕0.0	
1	33	SS2	50/ 8cm	MeHg (15:25) (0.15-0.61)	- Some silt to silty, very dense below 0.69 mbgs.					⊕0.2	
2	54	. SS3	40		SILTY SAND AND GRAVEL: Brown, dense, moist, trace clay, trace dolostone fragments (buff/dark grey), frequent cobbles.		327.14 1.52			⊕ ^{6.4}	
	67	SS4	47	Metals & Inorg. PAHs PHCs VOCs (15:51) (2:29-2:90)	- Dolomite fragments (buff) below 2.29 mbgs.					14.0 U	
3		SS5	44				324.94			⊕0.3	
4		\$\$6	50/ 13cm		CLAYEY SILT TILL: Brown, hard, moist, some sand, trace buff dolostone fragments. - 8 cm seam coarse sand, brown and black, moist at 4.06 mbgs.		3.72			⊕0.0	
5		. SS7.	52	SAR EC (16:19) (4.57-5.18)						\$0.0	
		SS8.	50/ 5cm		GUELPH FORMATION DOLOSTONE: Buff Bottom of borehole at 5.36 mbgs		323.35 5.31 323.30 5.36	323.30 5.36		⊕ ^{1.5}	
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Notes: 1. Information to be used for intrepretation of environmental conditions only

RECORD OF BOREHOLE: BH204

CLIENT: City of Guelph LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

DATE DRILLED: August 22, 2019

DRILLER: Aardvark Drilling Inc. DRILL RIG: CME 75 Rotary Power GROUND ELEVATION: 329.19 masl

NORTHING: 0560526.2

EASTING: 4821791.5

LOG	GED	BY: J	J. Ryl	bicki/V. Peters	DRILL METHOD: 108 mm HS	A			BOREHOLE DIAMETE	R: 21	0 mm	
			SAM			TC	(masl)	BORE	HOLE COMPLETION DETAILS	ORGA	NIC VAPO (ppn 10.6 eV PI	UR REA
DEPTH mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		2		
·		∵G1⊹			ASPHALT: FILL: Sand and Gravel, brown, moist, trace silt.		329.06 0.13		Borehole backfilled with bentonite upon completion	⊕ ^{3.8}		
1		G2		Metals & Inorg. PAHs PHCs VOCs	Sandy Clay, dark brown, moist, medium plasticity, Fe staining, some coarse sand and gravel, trace silt. Inconsistent 5 cm layer black with bricks and mortar at upper contact.		3 <u>28.58</u> 0.61			⊕4.4		
		G3		FOC (11:00) (0.76-1.07)	Silty Sand, light brown, moist, fine, Fe staining at upper contact, trace clay.		3 <u>27.97</u> 1.22			⊕ ^{6.7}		
2	25	\$\$1	4				326.98 2.21				30.1 •	
3	46	SS2	5		SANDY CLAYEY SILT: Brown, firm, moist to wet, trace gravel, trace buff dolostone fragments.		2.21			10.8 ₩		
Š	75	\$\$3	39	Metals & Inorg. PAHs PHCs VOCs FOC	GRAVELLY SILTY SAND: Brown, dense, moist, trace clay, few cobbles.		325.84 3.35				33.2 Ψ	
4	92	\$\$4	60	(15:31) (3.35-3.66)	- Occasional cobbles, very dense below 3.81 mbgs.	a o					36.0 ₩	
5	72	SS5.	50/ 13cm	SAR (15:52) (4.57-4.85)	- Brown and grey below 4.50 mbgs.	0 0				14.2 U	2	
	75	\$\$6	41	SAR (16:01) (5.33-5.72)	- Brown, dense below 5.18 mbgs. GUELPH FORMATION DOLOSTONE: Buff	0 0	323.48 5.72			2	4.1 ₩	
6	100	- 337	50/ 3cm		Bottom of borehole at 6.12 mbgs - 0 to 1.98 mbgs completed via test pit excavation on July 30, 2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon completion.		323.07 6.12	323.07 6.12				
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1. Information to be used for intrepretation of environmental conditions only

RECORD OF BOREHOLE: BH205

CLIENT: City of Guelph LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

LOGGED BY: A. Vermeersch

DATE DRILLED: August 12, 2019

DRILLER: Aardvark Drilling Inc. DRILL RIG: CME 75 Rotary Power

DRILL METHOD: 108 mm HSA

GROUND ELEVATION: 328.78 masl

NORTHING: 0560493.1

EASTING: 4821756.6

BOREHOLE DIAMETER: 210 mm

				ermeersch	DRILL METHOD: 108 mm HS					R: 210 mm
			SAM	IPLE				BOREH	HOLE COMPLETION DETAILS	ORGANIC VAPOUR REAL (ppm) 10.6 eV PID BULB
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		20 40 60 8
	75	SS1	26	Metals & Inorg. (08:50) (0.00-0.61)	ASPHALT: FILL: Sand and Gravel with Silt, brown to dark brown, medium dense, moist, fine to coarse sand, trace fine gravel, trace brick and wood.		328.70 0.08		Borehole backfilled with bentonite upon completion	33.2 U
1	42	SS2	22	PAHs (08:58) (0.76-1.37)						32.1 #
2	38	. \$\$3	20		Sand, light brown, medium dense, moist, fine to medium, some silt and fine gravel, brick at lower contact.		3 <u>27.20</u> 1.58			40.2 V
	38	SS4	40	PHCs VOCs (09:13) (2.29-2.90)	SAND AND GRAVEL: Brown, dense, moist, fine to medium sand, fine gravel, trace silt.	000000000000000000000000000000000000000	326.32 2.46			50.5 ₩
3	67	. \$\$5	19	Metals & Inorg. PAHs PHCs VOCs (09:22) (3.05-3.66)			,			64.5 U
4	46	\$\$6	44	SAR (09:30) (3.81-4.57)	SAND: Brown, dense, moist to wet, fine to medium sand, some silt, trace fine gravel. - 15 cm dolostone fragment at 3.91 mbgs.		324.97 3.81			33.6 ⊕
5	100	SS7	50/ -15cm		- 10 cm dolostone fragment at 3.91 mbgs. Some gravel below 4.67 mbgs. Bottom of borehole at 4.72 mbgs - Auger and split spoon refusal on bedrock at 4.72 mbgs.		324.06 4.72	324.06 4.72		0.6
6										
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Notes: 1. Information to be used for intrepretation of environmental conditions only

Prepared by: MS

RECORD OF BOREHOLE: BH206

CLIENT: City of Guelph LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

LOCGED BV: L Rybicki/V Peters

DATE DRILLED: August 19, 2019

DRILLER: Aardvark Drilling Inc. DRILL RIG: CME 75 Rotary Power

DRILL METHOD: 108 mm HSA

GROUND ELEVATION: 329.08 masl

NORTHING: 0560516.4

EASTING: 4821874.0

BOREHOLE DIAMETER: 210 mm

LOG	GED	BY: J	J. Ryl	bicki/V. Peters	DRILL METHOD: 108 mm HS	SA			BOREHOLE DIAMETE	R: 210 mm
			SAM			F		BORE	HOLE COMPLETION DETAILS	ORGANIC VAPOUR REA (ppm) 10.6 eV PID BULB
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		20 40 60 8
		G1		Metals & Inorg. PAHs PHCs VOCs (11:30) (0.30-0.61)	ASPHALT: FILL: Sand and Gravel, reddish brown, moist, some coarse sand, trace silt and cobbles.		328.98 0.10		Borehole backfilled with bentonite upon completion	Ф ^{5.6}
1		G2 G3								⊕ ^{3.7} ⊕ ^{4.6}
2	50	\$\$1	15				326.89			⊕0.0
	67	SS2	32	Metals & Inorg. PAHs PHCs VOCs (08:30) (2.29-2.90)	SILT AND SAND: Brown, dense, dry to moist, trace clay, trace gravel, Fe oxidation.		2.19			⊕0.0
3	100	SS3	34		SANDY CLAYEY SILT: Brown, hard, damp, some gravel.		326.11 2.97			⊕0.0
4	100	\$84	35	Metals & Inorg. PAHs PHCs VOCs (08:50) (3.81-4.42)						⊕0.0
5		SS5 SS8	50/ 10cm 50/		- Increased gravel below 4.50 mbgs.		324.03	324.00		⊕ 0.0 ⊕ 0.0
			3cm		GUELPH FORMATION DOLOSTONE: Buff. Bottom of borehole at 5.08 mbgs - 0 to 1.83 mbgs completed via test pit excavation on July 25, 2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon completion.		5.05 324.00 5.08	5.08		
6										
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Notes: 1. Information to be used for intrepretation of environmental conditions only

RECORD OF BOREHOLE: BH207

CLIENT: City of Guelph

LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

DATE DRILLED: April 9, 2020

DRILLER: Aardvark Drilling Inc.

DRILL RIG: CME 75 Rotary Power

GROUND ELEVATION: 330.06 masl

NORTHING: 0560472.2

EASTING: 4821825.2

LOG	GEE	BY: \	V. Pet	ters/J. Gowing	DRILL METHOD: 108 mm H	SA			BOREHOLE DIAMETE	R: 210	mm
		ı	SAMI)TC	(masl)	BORE	HOLE COMPLETION DETAILS	ORGAN	NIC VAPOUR RE (ppm) 0.6 eV PID BULE
DEPTH mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		20	
1		G2		PHCs (14:10) (0.30-0.61)	ASPHALT: FILL: Sand with Gravel, medium brown, moist, medium to coarse and gravel. Sand with Silt, medium brown, moist, coarse, some fine sand, coarse gravel and cobbles. - Increasing silt content and trace brick and concrete pipe below 0.91 mbgs.		329.93 0.13 329.45 0.61		Borehole backfilled with bentonite upon completion	∌ ^{3.0}	
2	67	ŚŚ4	41	PHCs (14:30) (2.29-2.90)	SILT WITH SAND: Brown, moist, hard, coarse, well sorted, some gravel and cobbles. - Fine sand, increasing silt below 2.59 mbgs.		328.08 1.98			⊕ ^{0.7}	
3	58	\$\$5	67		SILT TILL: Hard, dry, low plasticity, some clay, some fine gravel. Bottom of borehole at 3.66 mbgs - 0 to 1.83 mbgs completed via test pit excavation on November 12 2019 during archaeological investigation with Bobcat E55 excavator, test pit backfilled with excavated material upon		327.01 3.05 326.40 3.66	326.40 3.66		⊕0.5	
5					completion.						
6											
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Notes: 1. Information to be used for intrepretation of environmental conditions only

Prepared by: JRG

RECORD OF BOREHOLE: BH208

CLIENT: City of Guelph

DATE DRILLED: November 21, 2019

GROUND ELEVATION: 330.02 masl

LOCATION: 55 Baker Street PROJECT NUMBER: CE751900 DRILLER: Aardvark Drilling Inc. DRILL RIG: CME 75 Rotary Power NORTHING: 0560457.1 EASTING: 4821811.7

LOGGED BY: V. Peters/M. Shiry

DRILL METHOD: 108 mm HSA

BOREHOLE DIAMETER: 210 mm

LUG	GEL	BY: \	/. Pet	ters/M. Shiry	DRILL METHOD: 108 mm HSA				BOREHOLE DIAMETE	:R: 21	0 mm		
			SAMI			Ļ		BORE	HOLE COMPLETION DETAILS	ORGA	ANIC VAP (pp 10.6 eV l	OUR F	REAL
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masi) ELEV. DEPTH (mbgs)			0 40		
1		G1:		PAHs (10:45) (0.91-1.07)	ASPHALT: FILL: Sand with Gravel, brown, moist, medium to coarse. Concrete and Brick Rubble, trace sand and gravel, trace coal. Brick content increasing and sand and gravel decreasing with depth.		329.92 0.10 329.51 0.51		Borehole backfilled with bentonite upon completion	⊕ ^{1.2}			
2			18	PAHs (12:39) (2.29-2.44)	CONCRETE: Floor slab. SILTY SAND: Light brown, moist, medium dense, fine, trace medium to coarse sand, some fine to coarse gravel.		328.19 1.83 327.99 2.03						
3	67	\$\$1 \$\$2	16		Bottom of borehole at 3.66 mbgs		326.36 3.66	326.36 3.66		⊕ ^{7.0}			
4					Bottom of borehole at 3.66 mbgs - 0 to 1.83 mbgs completed via test pit excavation on November 12, 2019 during archaeological investigation with Bobcat E55 excavator, test pit backfilled with excavated material upon completion.								
5													
6													
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MASTER

RECORD OF TEST PIT: BH209

CLIENT: City of Guelph

DATE EXCAVATED: November 13, 2019

EXCAVATOR: Bobcat E55

GROUND ELEVATION: 329.49 masl

LOCATION: 55 Baker Street PROJECT NUMBER: CE751900 CONTRACTOR: Lewis Straus Construction Ltd.

NORTHING: 0560494.6 EASTING: 4821789.6

LOGGED BY: V. Peters

LO	GGE	BY: V	. Peters								
		,	SAMPLE				TES	T PIT COMPLETION DETAILS	ORGAN	NIC VAPOU (ppm) 0.6 eV PID	R READING
DEPTH (mbgs)	I >	TYPE	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)				
1 2 3 4 5	Re Re	G3:	Metals PCBs (08:45) (0.12-0.23) Metals PCBs (08:55) (0.61-0.73)	ASPHALT: FILL: Sand with Gravel, brown, dry, medium to coarse Some cobbles, increasing coarse sand below 0.30 mbgs. Silty Sand, medium brown, moist, fine, trace gravel, few cobbles 15 cm seam some brick at 0.91 mbgs. - Light brown below 1.52 mbgs. SILT AND SAND: Light brown, dry, fine to medium grained, some fine gravel and cobbles. Bottom of borehole at 2.59 mbgs		329.36 0.13 328.88 0.61 327.36 2.13 326.90 2.59	326.90 2.59	Test pit backfilled with excavated soil upon completion	⊕4.7 ⊕4.7 ⊕3.8	40 6	0 80
1 . 1											-

FT2M; BAKER.GPJ; MASTER_LIBRARY_R03.GLB; 431079 - WALLACE.GDT; 5/31/20

Notes: 1. Information to be used for intrepretation of environmental conditions only

RECORD OF BOREHOLE: BH210

CLIENT: City of Guelph LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

LOGGED BY: M. Shirv

DATE DRILLED: November 21, 2019

DRILLER: Aardvark Drilling Inc. DRILL RIG: CME 75 Rotary Power

DRILL METHOD: 108 mm HSA

GROUND ELEVATION: 328.92 masl

NORTHING: 0560478.7

EASTING: 4821764.0

BOREHOLE DIAMETER: 210 mm

LOG	GED	BY: N	И. Sh	iry	DRILL METHOD: 108 mm H	SA			BOREHOLE DIAMETE	R: 210	mm		
			SAM			-		BORE	HOLE COMPLETION DETAILS	ORGA	NIC VAPO (ppr 10.6 eV PI	UR RE	AD
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		20			B 8
-					ASPHALT:		328.77		Borehole backfilled with bentonite upon				٦
	58	\$\$1	15		FILL: Sand and Gravel, brown, moist, medium dense, fine to coarse, trace silt. Sandy Silt with Gravel, dark brown, very moist, low plasticity, stiff, fine to coarse sand, fine gravel, trace clay, trace glass, trace		0.15 328.31 0.61		completion	⊕ ^{2.6}			
1	63	SS2	11	Metals (09:09) (1.07-1.07)	asphalt.		3 <u>27.70</u> 1.22			⊕ ^{2.6}			
	63	\$\$3	6	(Silty Clay, medium brown, moist, medium to high plasticity, trace fine and medium sand, trace fine gravel.		1.22			⊕2.3			
2				Metals (09:17) (1.98-2.13)	SAND: Light brown, moist, medium dense, fine, trace fine to coarse gravel, trace silt.		326.81 2.11						
3	71	SS4	14							⊕1.7			
3	42	SS5	28		- Increased gravel, trace medium to coarse sand below 3.05 mbgs.		325.26	225.26		⊕ ^{1.9}			
4					Bottom of borehole at 3.66 mbgs		3.66	325.26 3.66					
5													
6													
7													

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Notes: 1. Information to be used for intrepretation of environmental conditions only

GROUND ELEVATION: 328.65 masl

NORTHING: 0560498.5

JACOBS

RECORD OF BOREHOLE: BH211

CLIENT: City of Guelph LOCATION: 55 Baker Street

PROJECT NUMBER: CE751900

LOGGED BY: M. Shiry

DATE DRILLED: November 21, 2019

DRILLER: Aardvark Drilling Inc. DRILL RIG: CME 75 Rotary Power

EASTING: 4821750.1

DRILL METHOD: 108 mm HSA BOREHOLE DIAMETER: 210 mm

			SAMI				(masl)	BORE	HOLE COMPLETION DETAILS	ORGAN 1	NIC VAPOUR R (ppm) 10.6 eV PID BUI	JLE
DEPTH (mbgs)	Recovery (%)	TYPE	N Value	Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		20		
	63	\$\$1	10	_	ASPHALT: FILL: Silt, Sand and Gravel, dark brown, moist to very moist, loose, fine to coarse sand and gravel, trace slag and glass. - Wood debris at 0.61 mbgs.		328.55 0.10		Borehole backfilled with bentonite upon completion	∌ ^{3.2}		
1	29	SS2	7							∌ ^{2.6}		
2	71	\$\$3	38		SILTY SAND AND GRAVEL: Light brown, dense, moist, fine to coarse sand and gravel. - 3 cm seam back and white granite gravel seam at 2.13 mbgs.		327.00 1.65			∌ ^{3.2}		
	71	SS4	22		SILTY SAND: Light brown, moist, medium dense, fine, trace medium to coarse sand, trace fine gravel.		326.31 2.34			⊕ ^{3.4}		
3	29	\$\$5	25	Metals (10:58) (3.05-3.66)	- Increased gravel content below 3.05 mbgs.					⊕4.3		
4	58	\$\$6	18							⊕ ^{4.4}		
5	100	SS7	50+/ 15cm		GUELPH FORMATION DOLOSTONE: Buff. Bottom of borehole at 4.72 mbgs		324.08 4.57 323.93 4.72	323.93 4.72				
6												
7												

MASTER



CLIENT: City of Guelph DATE DRILLED: August 22, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: J. Rybicki/V. Peters DRILL METHOD: 108 mm HSA, HQ water core GROUND ELEVATION: 329.93 masl

WATER ELEVATION: 322.46 masl

TOP OF PIPE: 329.84 masl

NORTHING: 0560474.8

Page 1 of 2

EASTING: 4821807.2

MOE WELL TAG#: A268718

WATER LEVEL DATE: September 18, 2019

			SA	AMPL	.ES			_				EHOLE/COREHOLE MPLETION DETAILS	ORGAN	NIC VAPOUR R	READ
DEPTH (mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		IFLETION DETAILS		(ppm) 10.6 eV Bulb PI	
1		G1 G2				Metals & Inorg. PAHs PHCs VOCs FOC (13:45) (0.41-0.46)	ASPHALT: FILL: Sand and Gravel, brown, moist. Clay, bark brown, moist medium plasticity, some fine gravel, trace silt and fine sand, trace coarse gravel, trace Fe staining. Silty Sand, brown, dense, moist, fine, some coarse gravel and cobbles, trace clay and boulders <45 cm. - Clay lense with clay pottery fragments and coal at 0.61 mbgs.		329.83 0.10 329.52 0.41 329.47 0.46	329.63 0.30	300 €	Flushmount casing secured in sourcete 210 mm borehole Bentonite seal	⊕ ^{2.6} ⊕ ^{6.4} ⊕ ^{8.0}		
2	71	SS1	37			Metals & Inorg.	SILTY SAND: Brown, dense, moist, fine, some coarse gravel and cobbles, trace clay and boulders <45 cm. - 10 cm gravel seal at 1.96 mbgs.		328.41 1.52				⊕0.8		
3	63	SS2	37			PAHs PHCs VOCs FOC (08:53) (2.29-2.90)		0.8	326.96 2.97				⊕0.5		
ŭ	63	.SS3	24				<u>SAND AND GRAVEL:</u> Brown and grey, compact, moist, some silt, trace clay, occasional cobbles.		2.91 6				⊕0.2		
4	100	SS4	35				- Dense below 3.73 mbgs.		6 9 6				⊕ ^{1.5}		
5		SS5	35			SAR EC FOC (09:18) (4.57-5.18)	Sampler refusal on bedrock at 5.39 mbgs, ream HW casing to 5.66 mbgs, HQ coring begins at 5.66 mbgs. GUELPH FORMATION DOLOSTONE: Buff, fine to		324.67 5.26	324.75 5.18 324.60		#3 silica sand filter	⊕ ^{0.1}		
6	100	SS6	5cm	66	10+		medium-grained, fossiliferous, vuggy/pitted, calcite mineralization in vugs, fresh to slightly weathered, medium strong, close to moderately close joint spacing, thickly bedded, extremely to moderately fractured, massive, trace Fe staining in rock matrix. - Fracture Zone at 5.66 to 5.74 mbgs. - Fe staining in fracture at 5.92 mbgs. - Fracture Zone at 6.15 to 6.22 mbgs.			5.33		96 mm corehole 50 mm diameter SCH 40 PVC pipe,#10-slot well screen			
					1 0		- Fe staining in fracture at 6.22 mbgs Fresh, moderately fractured to sound below 6.38 mbgs 1 mm thick black vein at 6.83 mbgs.								
7	100	RC2		83	10+		- Fracture Zone at 7.19 to 7.24 mbgs Fe staining in fracture at 7.34 mbgs.					Ţ			
	-						- Slightly fractured to sound, no Fe staining below 7.90 mbgs.	<u> </u>							

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CLIENT: City of Guelph DATE DRILLED: August 22, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: J. Rybicki/V. Peters DRILL METHOD: 108 mm HSA, HQ water core GROUND ELEVATION: 329.93 masl

TOP OF PIPE: 329.84 masl

NORTHING: 0560474.8

EASTING: 4821807.2

MOE WELL TAG#: A268718

Page 2 of 2

WATER LEVEL DATE: September 18, 2019

WATER ELEVATION: 322.46 masl

Į			S/	AMPL	.ES				(m ==1)		BOREHOLE/COREHOLE COMPLETION DETAILS	ORGAN	NIC VAPO (ppr 10.6 eV B	OUR READ m) Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)				300 40
]		2		- Fe staining in fracture at 8.00 mbgs.	///						
					0		- 1 mm thick black vein at 8.21 and 9.32 mbgs. - 25 mm vug with calcite mineralization at 8.25 mbgs.							
	100	RC3		100	0			///		321.40 8.53 321.24				
					0					8.69	Bentonite seal			
9								7//						
					1		- Fresh to slightly weathered, weak to medium strong.	7//						
					0		- Fresh to slightly weathered, weak to medium strong, moderately fractured to sound below 9.42 mbgs.	///						
10					0									
	100	RC4		90	0			Z_/						
					1			7/7/						
					2		- Trace Fe staining in rock matrix below 10.57 mbgs 20 mm vug at 10.67 mbgs Fracture Zone at 10.69 to 10.77 mbgs.	///						
11							- Close to moderately close joint spacing below 10.97 mbgs	///						
					0		- 1 mm thick black vein at 11.05 and 11.07 mbgs Increased vug density at 11.07 to 11.28 mbgs 65 mm vug at 11.15 mbgs.	///						
					0			7//						
	100	RC5		100	0			7//						
12					1		- Fe staining in fracture at 12.09 mbgs.	/_/						
					0			///						
					0			7//						
40	100	RC6		100	1									
13					'		20	///	316.67	316.67				
14							30 mm vug at 13.23 mbgs. Fe staining in fracture at 13.21 mbgs. Bottom of corehole at 13.26 mbgs - 0 to 1.52 mbgs completed via test pit excavation on July 2. 2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon completion.	4,	13.26	13.26				
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1. Information to be used for interpretation of environmental conditions only

Prepared by: MS



CLIENT: City of Guelph DATE DRILLED: August 21, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc. GROUND ELEVATION: 328.68 masl

TOP OF PIPE: 328.52 masl

NORTHING: 0560553.9

Page 1 of 2

EASTING: 4821749.6

							RILL RIG: CME 75 Rotary Power RILL METHOD: 108 mm HSA, HQ water core	WATER I				MOE WELL TAG 3, 2019	#: A2007	10
			SA	MPL	ES			T 5	(masl)			REHOLE/COREHOLE MPLETION DETAILS	ORGANIC 10.6	VAPOUR REA (ppm) 6 eV Bulb PID
DEPTH (mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)				200 300 4
1		G1 G2 G3.				Metals & Inorg PAHs PHCs VOCs (12:30) (0.46-0.61)	FILL: Sand and Gravel, black and brown, moist, some brick asphalt and glass. Clay, brown, moist, medium plasticity, some coarse gravel, trace fine sand and silt. Silty Clay and Sand and Gravel, moist, trace cobbles. Ash, demolition debris, metal fragments, Fe staining.		328.58 0.10 328.35 - 0.33 328.30 0.38 - 328.02 0.66	328.38 0.30	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1	Flushmount casing secured in socured in concrete 210 mm borehole Bentonite seal	⊕2.5 ⊕3.9 ⊕9.1	
2	21	SS1	5			Metals & Inorg	SILTY SAND: Brown, compact, moist, coarse sand, trace clay, trace coarse gravel and cobbles.		327.08 1.60				⊕0.0	
3		SS2	23			PAHs PHCs VOCs (08:54) (2:29-2:90)	- Frequent cobbles, dense, below 2.97 mbgs.						6 0.3	
4	100	SS3	90				- Gravelly, occasional cobbles, very dense below 3.73 mbgs.						⊕ 0.0 ⊕ 0.0	
5		\$\$5 \$\$6	50/ 13cm 50/ 10cm				- Some gravel below 5.18 mbgs.			323.19 5.49		∴ #3 silica sand filter ∴ pack ∴ 50 mm diameter	⊕ 0.0 ⊕ 0.0	
6	100	\$\$7	50/ 3cm		10+	SAR (09:37) (6.10-6.25)	- Sampler refusal on bedrock at 6.27 mbgs, ream HW casing to 6.40 mbgs, HQ coring begins at 6.40 mbgs. GUELPH FORMATION DOLOSTONE: Buff, fine to medium-grained, fossiliferous, vuggy/pitted, calcite mineralization in vugs, slightly weathered, medium strong,		322.41 6.27	322.41 6.27		SCH 40 PVC pipe,#10-slot well screen 96 mm corehole	⊕0.0	
7	93	RC1		63	0 4		close to moderately close joint spacing, thickly bedded, extremely to slightly fractured, massive. - Fracture zone at 6.40 to 6.71 mbgs. - Black and yellow secondary mineralization at 6.78 mbgs. - 10 cm vertical fracture with Fe staining at 7.39 mbgs. - Trace Fe staining in rock matrix 7.47 to 8.66 mbgs. - Fe staining in fracture at 7.52 mbgs.					¥		

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Information to be used for interpretation of environmental conditions only

Prepared by: MS



CLIENT: City of Guelph DATE DRILLED: August 21, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power GROUND ELEVATION: 328.68 masl

WATER ELEVATION: 321.14 masl

TOP OF PIPE: 328.52 masl

NORTHING: 0560553.9

Page 2 of 2

EASTING: 4821749.6

MOE WELL TAG#: A268718

			S	AMPI	ES			Ŀ			BOREHOLE/COREHOLE COMPLETION DETAILS	ORGANIC VAPOUR REA (ppm) 10.6 eV Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		10.6 eV Bulb PID
	100			04	2		- Fresh to slightly weathered, moderately fractured to sound below 7.92 mbgs. - 1 mm thick black veins at 8.03, 8.92, and 9.12 mbgs. - Fe staining in fracture at 8.56 mbgs.					
9	100	.RC2		81	0		- Fe staining in fracture at 8.56 mbgs Fe staining in fracture at 8.59 mbgs Increased vug density from 8.58 to 8.67 mbgs.			319.92 8.76 319.76 8.92	Bentonite seal	
10					1		- Black and yellow secondary mineralization at 9.81 and 10.52 mbgs.					
	100	RC3		94	2							
11					1 0		- Fresh, sound below 11.05 mbgs.					
12	100	RC4		100	0							
13	100	RC5		90	10+		- 1 mm thick black vein at 12.50 mbgs. - Fracture zone at 12.67 to 12.75 mbgs.					
14			1		0		Bottom of corehole at 13.34 mbgs - 0 to 1.60 mbgs completed via test pit excavation on July 26, 2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon completion.	/_/_	315.35 13.34	315.35 13.34	•	
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IMICO MW

Information to be used for interpretation of environmental conditions only



CLIENT: City of Guelph

DATE DRILLED: August 27, 2019

GROUND ELEVATION: 329.49 masl TOP OF PIPE: 329.35 masl

NORTHING: 0560437.7 Page 1 of 1

LOCATION: 55 Baker Street PROJECT NUMBER: CE751900

DRILLER: Aardvark Drilling Inc. DRILL RIG: CME 75 Rotary Power

WATER ELEVATION: 325.12 masl

MOE WELL TAG#: A268718

EASTING: 4821899.0

LOGGED BY: J. Rybicki/V. Peters

DRILL METHOD: 108 mm HSA, HQ water core

WATER LEVEL DATE: September 18, 2019

		_	SA	AMPL	.ES						BOREHOLE/COREHOLE COMPLETION DETAILS	ORGANIC VAPOUR REAL (ppm) 10.6 eV Bulb PID
DEPTH (mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		100 200 300 40
							ASPHALT: FILL: Sand and Gravel, brown, moist, trace silt.		329.37 0.12	329 19	Flushmount casing Secured in Concrete	
1							Sandy Clay, brown, moist, medium plasticity, trace coarse gravel and cobbles. Sand, moist, coarse, trace fine sand and silt, trace organics and Fe staining.		329.03 0.46 328.80 0.69	329.19 0.30	Bentonite seal	
							Silty Clay, black, moist, medium plasticity, trace sand, trace nails and wood debris. Clayey Silt, light brown, moist, some fine sand, trace coarse sand and fine gravel, trace Fe staining.		328.40 1.09 328.25 1.24			
							Silty sand, brown, loose, moist, trace gravel, trace clay, iron oxidation.		3 <u>27</u> . <u>97</u> 1.52	327.51		
2							SAND: Brown, compact, moist, trace silt, trace gravel.		327.28 2.21	1.98	#3 silica sand filter pack 50 mm diameter SCH 40 PVC pipe,#10-slot well screen	
3							SANDY CLAYEY SILT TILL: Brown, very stiff, moist to wet, trace gravel.		326.52 2.97		50 mm diameter 50 mm diameter 50 cm	
4							- Stratified sand seams, wet below 3.81 mbgs.				¥	
5							- Some sand, hard, moist below 5.03 mbgs. Bottom of corehole at 5.33 mbgs - Lithology inferred from adjacent borehole MW102B.		324.16 5.33	324.31 5.18 324.16 5.33		
6												
7												

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1. Information to be used for interpretation of environmental conditions only



CLIENT: City of Guelph DATE DRILLED: August 26, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: I Rybicki/V Peters DRILL METHOD: 108 mm HSA HO water core GROUND ELEVATION: 329.52 masl

WATER ELEVATION: 321.43 masl

TOP OF PIPE: 329.42 masl

NORTHING: 0560436.3

Page 1 of 2

EASTING: 4821899.7

MOE WELL TAG#: A268718

WATER LEVEL DATE: Sentember 18, 2019

			SA	AMPL	ES			F		<u> </u>	BOREHOLE/COREHOLE COMPLETION DETAILS	ORGANIC VAPOUR REA (ppm) 10.6 eV Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		100 200 300 4
		G1				Matala 9 Inava	ASPHALT: FILL: Sand and Gravel, brown, moist, trace silt.		329.40 0.12 329.06 0.46	329.22 0.30	Flushmount casing secured in concrete 210 mm borehole Bentonite seal	⊕1.4
1		G2				Metals & Inorg. PAHs PHCs VOCs (15:45) (0.51-0.63)	Sandy Clay, brown, moist, medium plasticity, trace coarse gravel and cobbles. Sand, moist, coarse, trace fine sand and silt, trace organics and Fe staining.		3 <u>28.83</u> 0.69			ф 2.9
•		.G3.				(12.2.2.7)	Silty Clay, black, moist, medium plasticity, trace sand, trace nails and wood debris. Clayey Silt, light brown, moist, some fine sand, trace coarse sand and fine gravel, trace Fe staining.		328.43 1.09 328.28 1.24 328.00			⊕0.4
2	75	SS1	7				Sity sand, brown, loose, moist, trace gravel, trace clay, iron oxidation.		1.52			⊕0.0
	58	SS2	13			Metals & Inorg. PAHs PHCs VOCs FOC (08:45) (2.29-2.90)	SAND: Brown, compact, moist, trace silt, trace gravel.	KXXX	327.31			⊕0.2
3	79	.SS3	17			(2.29-2.90)	SANDY CLAYEY SILT TILL: Brown, very stiff, moist to wet, trace gravel.		326.55 2.97			⊕0.1
4	100	SS4	12			Metals & Inorg. PAHs PHCs VOCs FOC (08:57) (3.81-4.42)	- Stratified sand seams, wet below 3.81 mbgs.					⊕0.2
5	58	SS5	24				- Some sand, hard, moist below 5.03 mbgs.					⊕0.2
6	100	\$\$6	63				- Grey below 5.33 mbgs.					⊕0.1
U	100	SS7	63									⊕0.0
7	100	SS8	50/ 13cm				SANDY SILT: Brown, very dense, moist, trace clay, trace gravel.		322.51 7.01			⊕0.2
	100	SS9	50/ 13cm 50/	100		SAR EC FOC (09:44)	- Dolomite fragments below 7.62 mbgs Sampler refusal on bedrock at 7.90 mbgs, ream HW casing Lto 7.93 mbgs, HQ coring begins at 7.93 mbgs.		321.62	321.62		

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Information to be used for interpretation of environmental conditions only



CLIENT: City of Guelph DATE DRILLED: August 26, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

GROUND ELEVATION: 329.52 masl

WATER ELEVATION: 321.43 masl

TOP OF PIPE: 329.42 masl

NORTHING: 0560436.3

Page 2 of 2

EASTING: 4821899.7

MOE WELL TAG#: A268718

		3/	AIVIPL	.ES				(mool)		COM	EHOLE/COREHOLE IPLETION DETAILS	10.	VAPOUI (ppm) 6 eV Bull	n PID
Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLO	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)					
	RC1	3cm		0 1 0	(7.62-7.92)	GUELPH FORMATION DOLOSTONE: Buff, fine to medium-grained, vuggy/pitted, fossiliferous, calcite mineralization in vugs, fresh to slightly weathered, medium strong, close to moderately close joint spacing, thickly bedded, slightly fractured to sound, massive.	/_/ /_/ /_/				¥			
100	RC2		94	2			7//		320.83 8.69		#3 silica sand filter pack 50 mm diameter			
				0							SCH 40 PVC pipe,#10-slot well screen			
				0										
				1			7//							
100	RC3		100	0			7//		319.16 10.36					
				2		- Increased vug density at 10.5 to 10.6 mbgs.			319.00 10.52 318.85 10.67					
				2		- Fresh, moderately fractured to sound below 10.95 mbgs.								
				0		 Increased vug density and calcite mineralization at 11.23 to 11.28 mbgs. 								
100	RC4		95	2			7/7/							
				1										
				2		- Fe staining in fracture at 12.57 mbgs.								
100	RC5		89	2										
				2			///							
	<u>1818</u>			2		10 cm vertical fracture at 13.54 mbgs. Bottom of corehole at 13.64 mbgs	, , , , , , , , , , , , , , , , , , ,	315.88 13.64	315.88 13.64					
	100		100 RCC3 100 RCC4 100 RCC3 100 RCC4 100 RCC3 100 RCC4 100	100 & SCT 100	100 RC3 100 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 0 0 0 1 1 1 0 0 1	100 RC4 95 2 100 RC5 89 2 2 100 RC5 89 2 2 2 2 2 2 2 2 2	Second S	Section of coreshed at 12.57 mbgs. Section of coreshed at 12.57 mbgs. Section of coreshed at 12.57 mbgs. Section of coreshed at 13.54 mbgs. Section o	LITHOLOGY & REMARKS Company Com	Company Comp	COM	Compared Compared	Completion Details Complet	Company Comp

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Information to be used for interpretation of environmental conditions only

Prepared by: MS



RECORD OF MONITORING WELL: MW103

TOP OF PIPE: 329.34 masl

CLIENT: City of Guelph DATE DRILLED: August 14, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

> DRILL RIG: CME 75 Rotary Power WATER ELEVATION: 325.38 masl

GROUND ELEVATION: 329.52 masl NORTHING: 0560449.6

EASTING: 4821888.4

MOE WELL TAG#: A268718

Page 1 of 2

CECTING Section Control Cont	LOC	GGE	D BY	: A. \	/erm	eers	ch/M. Shiry DI	RILL METHOD: 108 mm HSA, HQ water core	WATE	RL	EVEL DA	ATE: Septe	embe	er 18,	201	19			
CEPTH Section Companies Cepth				SA	AMPL	ES											ORGA	NIC VAPOUF (ppm)	READING
Color Section Color Co	DEDTH	(%			<u> </u>	s c	rs rval		P.C			(masl)					┈	10.6 eV Bulb	PID
Application		/ery (/PE	PT /alue	%) _	cture 0.3 n	meter lyzec me) e inte bgs)	LITHOLOGY & REMARKS	\ \			ELEV.							
Application	` ,	(eco	1	S Z	RQ	Frac per	Parar Ana (tir mple		STR		(mbgs)	I							
Section Part Sect		IĽ.					es)	ASPHALT:			320.40	(mbgs)	2.4		ig FI	lushmount casing	100	200 30	0 400
Melais & Increased coarse graved bown 64 mags 177 mbgs 177 m	-							FILL: Sand and Gravel, brown, moist, fine to coarse sand	$\times\!\!\times$	X	0.12	220.22	7		S	ecured in			
1 17 251 4	-		G1						\bowtie	\boxtimes		0.30	8				9.5		
1 17 SS1 4 (0.56-0.71) 1 17 SS1 4 (0.56-0.71) SS1 17 SS1 5 0 (0.56-0.71) SS2 17 SS1 5 0 (0.56-0.71) SS3 17 SS1 5 0 (0.56-0.71) SS3 17 SS1	_						Metals & Inorg.		+	X	328.96 0.56								
1 1 7 551 4			.G2.				PHCs	trace sand, trace organics and Fe staining.		\boxtimes	0.00						⊕ 8.3		
Section of coretoles at 7.77 mbgs Section of coretoles at 7.77							FOC		\bowtie	X									
Sixty SAND: Blown, cose, dy, fine to medium sand, 1.52 377.96 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83	_ '	17	SS1	4			(09:40) (0.56-0.71)		\otimes	X							ф ^{1.3}		
Sixty SAND: Blown, cose, dy, fine to medium sand, 1.52 377.96 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83 1.83									\otimes	\boxtimes									
SAND Brown and white moist medium to coarse CLAYEY SILT, Brown, stiff to hard, trace for gravel.	-		, , , ,							X									'
SAND: Brown and white, most, medium to coarse. SAND: Brown and white, most, medium to coarse. CLAYE SLT. Brown, stiff nost, medium to by pasticity, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to medium plasticity, fine, trace fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to hard fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to hard fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to hard fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to hard fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to hard fine gravel. SAND: Slt. Brown, stiff to hard, most to very moist, low to hard fine gravel. SAND: Slt. Brown, stiff to hard, most	-										1.52								- -
SAND Brown and white moist, medium to coarse. GANY SIZ Brown and white moist, medium to coarse. GANY SIZ Brown and fine and trace free gravel. SAND SIZE Brown and fine and trace free gravel. SAND SIZE Brown and fine and trace free gravel. SAND SIZE Brown and fine and trace free gravel. SAND SIZE Brown and fine and trace free gravel. SAND SIZE Brown and fine and trace free gravel. SAND SIZE Brown and fine and trace free gravel. SAND SIZE Brown and fine and trace free gravel. SAND SIZE Brown and fine and trace free gravel. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and white moist, medium to coarse. SAND SIZE Brown and trace free gravel. SAND SIZE Brown and trac	-	50	SS2	9								327.69 1.83	1:1		#:	3 silica sand filter	♦3.4		
SAMD Brown and white moist medium to coarse. CLAPE SLIT Brown, stiff in mich. moist to very moist, low 237.18 2.34 33. SSS 12 Metals 8 Inorg PARs PARs PARs PARs PARs PARs PARs PARs	- 2														. pa	ack			-
SAND, Brown and white, most, redulum to coarse. CLAYE SIT. Brown, stiff, moist, medium to high plasticity, trace fine sand, trace fine gravet. SANDY SIT. Brown, stiff to hard, moist to very moist, low to medium plasticity, fine, trace fine gravet. SANDY SIT. Brown, stiff to hard, moist to very moist, low to medium plasticity, fine, trace fine gravet. SANDY SIT. Brown, stiff to hard, moist to very moist, low to medium plasticity, fine, trace fine gravet. SANDY SIT. Brown, stiff to hard, div, low plasticity, trace fine and, trace day. Wet below 3.81 mbgs. PArts 100 SS6 50+ SST 50+ Metals & linorg. PArts 100 SS7 50+ PhiCs VOCs 110 SS8 46 SST 50+ SS8 50+ SS8 50+ SS8 50+ SSR 65- SS8 50+ SSR 65- SSR 77 75 SS8 50+ SSR 65- SSR 77 75 SS8 50+ SSR 77 77 777 Bbps Bottom of corehole at 7.77 mbps Bottom of corehole at 7.77 mbps SANDY SIT. Brown, stiff to hard, dro, brown motifing below 9.43 mbgs. SSR 77 77 777 777	-										327.23								.
Section of corchole at 7.77 mbgs Section of cor	-								Ийи	Й	2.29	1			· . рі	pe,#10-slot well			
SANDY SILT: Brown, stiff to hard, moist to very moist, low to medium plasticity, fine, trace fine graved. Metals & Inorg. PAHs PAHs POOCS FOC (14:50) (3.81-4.27) Metals & Inorg. PAHs POOCS FOC (14:50) (3.81-4.27) Metals & Inorg. PAHs POOCS FOC (14:50) SILT: Brown, very stiff to hard, dry, low plasticity, trace fine and, trace clay. - Grey below 4.88 mbgs. Metals & Inorg. PAHs PHOS SAR PHOS Increased sand, brown motiling below 6.48 mbgs. - Sor year of the path of t	-	58	SS3	12				plasticity, trace fine sand, trace fine gravel.	WW	扣					S	creen	3.4		
SANDY SILT: Brown, stiff to hard, moist to very moist, low to medium plasticity, fine, trace fine graved. Metals & Inorg. PAHs PAHs POOCS FOC (14:50) (3.81-4.27) Metals & Inorg. PAHs POOCS FOC (14:50) (3.81-4.27) Metals & Inorg. PAHs POOCS FOC (14:50) SILT: Brown, very stiff to hard, dry, low plasticity, trace fine and, trace clay. - Grey below 4.88 mbgs. Metals & Inorg. PAHs PHOS SAR PHOS Increased sand, brown motiling below 6.48 mbgs. - Sor year of the path of t										\mathcal{I}									
SANDY SILT: Brown, stiff to hard, moist to very moist, low to medium plasticity, fine, trace fine graved. Metals & Inorg. PAHs PAHs POOCS FOC (14:50) (3.81-4.27) Metals & Inorg. PAHs POOCS FOC (14:50) (3.81-4.27) Metals & Inorg. PAHs POOCS FOC (14:50) SILT: Brown, very stiff to hard, dry, low plasticity, trace fine and, trace clay. - Grey below 4.88 mbgs. Metals & Inorg. PAHs PHOS SAR PHOS Increased sand, brown motiling below 6.48 mbgs. - Sor year of the path of t	- 3									\mathcal{H}	326 47			3 :					
Metals 8 Inorg PAHs PHCs VOCs VOCs VOCs (15.0) 100 SSS 50* Metals 8 Inorg PAHs PHCs VOCs VOCs (15.0) 100 SSS 50* Metals 8 Inorg PAHs PHCs VOCs (15.3) - 5 100 SSS 50* Metals 8 Inorg PAHs PHCs VOCs (15.3) - 6 100 SSS 50* ST 50* Metals 8 Inorg PAHs PHCs VOCs (15.3) - 6 100 SSS 50* ST 50* Metals 8 Inorg PAHs PHCs VOCs (15.3) - 6 100 SSS 50* ST 50* ST 50* Metals 8 Inorg PHCs VOCs (15.3) - 6 100 SSS 50* ST 77 777 777 777 ST 777	ľ							SANDY SILT: Brown, stiff to hard, moist to very moist, low		$\parallel \parallel$	3.05	1							
A Sa SSS 31		63	SS4	12				to medium plasticity, fine, trace fine graver.		Ш							3.7		
- 4 58 SS 31														:					
- 4 58 SS 31	•		1.1.1.1.																'
4 58 SSS 31 PHCs VOCs FOC (14:90) SILT; Brown, very stiff to hard, dry, low plasticity, trace fine 325.5 4.27	-						l PAHs I	- Wet below 3.81 mbgs.						囯.	-				'
Fig. (14:50) (3.81-4.27)	- 4	E0	CCE	31			PHCs									_	7.7		-
(3.81-4.27) (3.81-	-	56	.333				FOC			Ш	325.25			:		Ŧ	Γ		
- 5 Metals & Inorg.	-						(3.81-4.27)	<u>SILT:</u> Brown, very stiff to hard, dry, low plasticity, trace fine sand, trace clay.			4.27								
- 5 Metals & Inorg.	-																		
- 5 Metals & Inorg.				50+										를:	-		48		
Metals & Inorg. PAHs PHCs VOCs FOC (15:11) (5:33-5:94) - 7 7 75 \$\$\frac{\text{SS9}}{\text{50}}\$\$ 50+ \$\frac{\text{SAR}}{\text{EC}}\$ \$\frac{\text{SAR}}{(15:36)}\$ \$\frac{\text{SAR}}{\text{EC}}\$ \$\frac{\text{SSR}}{(15:36)}\$ \$\frac{\text{SAR}}{\text{EC}}\$ \$\frac{\text{SSR}}{(15:36)}\$ \$\frac{\text{SSN}}{\text{50}}\$ \$\frac{\text{321.75}}{\text{50}}\$ \$\frac{\text{321.75}}{\text{7.77}}\$ \$\frac{\text{321.75}}{\text{50}}\$ \$\frac{\text{500}}{\text{7.77}}\$ \$\frac{\text{7.77}}{\text{7.77}}\$	- 5	100	SS6					- Grey below 4.88 mbgs.							-		"		
Metals & Inorg. PAHs PHCs PAHs PHCs POC (15:11) (5.33-5.94) 100 SS8 46 100 SS8 46 SAR EC (15:36) (6.86-7.47) SS10 50/ 15cm Metals & Inorg. PAHs PHCs PHCs POC (15:11) (5.33-5.94) SS10 50/ 15cm Metals & Inorg. PAHs PHCs PHCs PHCs PHCs PHCs PHCs PHCs PH												324.34		耳.					
100 SS8 46 100 SS8 46 100 SS8 46 100 SS8 50+ SS10 50+ SS10 50/ 15cm 100 SS8 50+ SS10 50/ 15cm 100 SS8 50+ SS10 50/ 15cm SS10 50/ 15							Metals & Inorg.					324.19		\bigcup	٠.				
100 SS7 FOC (15:11) (5:33-5:94) 100 SS8 46 SAR EC (15:36) (6:86-7.47) SS10 50/ 15cm Bottom of corehole at 7.77 mbgs 7.77 7.77				50+			PHCs	- 8 cm seam Silty Sand, brown, moist, fine at 5.41 mbgs.				5.33							
504 SS8 46 SOV SS8 50+ (6.86-7.47) SS10 50V SS10		100	SS7	30.			VOCs FOC										₱ ^{4.9}		
504 SS8 46 SOV SS8 50+ (6.86-7.47) SS10 50V SS10							(15:11) (5.33-5.94)												
SAR EC (15:36) (6.86-7.47) SS10 50/ 15cm Bottom of corehole at 7.77 mbgs 7.77 82.1	- 6														ı				-
SAR EC (15:36) (6.86-7.47) SS10 50/ 15cm Bottom of corehole at 7.77 mbgs 7.77 82.1																			
- 7	ŀ	100	SS8	46													ф ^{2.2}		
- 7	}														Ī				- -
- 7	-						SAR								ı				
75 \$\$9 \$0.7	- 7						EC												
Bottom of corehole at 7.77 mbgs 7.77 7.77		75	SS9	50+			(6.86-7.47)										ф 2.1		.
Bottom of corehole at 7.77 mbgs 7.77 7.77																			
Bottom of corehole at 7.77 mbgs 7.77 7.77																			
- 0 to 1.00 mbgs completed via test pit excavation on July 22,			SS10	50/ 15cm				Pottom of corobolo at 7.77 mb	ЩЩ	Щ	321.75	321.75							
								- 0 to 1.00 mbgs completed via test pit excavation on July 22,			1.11	1.11							

Notes:

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Prepared by: MS



RECORD OF MONITORING WELL: MW103

TOP OF PIPE: 329.34 masl

CLIENT: City of Guelph DATE DRILLED: August 14, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

> DRILL RIG: CME 75 Rotary Power WATER ELEVATION: 325.38 masl

GROUND ELEVATION: 329.52 masl NORTHING: 0560449.6

EASTING: 4821888.4

Page 2 of 2

MOE WELL TAG#: A268718

			SA	AMPL	ES			-			BOREHOLE/COREHOLE COMPLETION DETAILS	ORG	ANIC VAPOUR F (ppm) 10.6 eV Bulb F	READ
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)			10.6 eV Bulb F	
9							2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon completion. - Auger and split spoon refusal at 7.77 mbgs on bedrock.							
10														
11														
12														
13														
14														
15														

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Prepared by: MS

CH2M HILL Canada Limited



RECORD OF MONITORING WELL: MW104

TOP OF PIPE: 329.64 masl

CLIENT: City of Guelph DATE DRILLED: August 13, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

> DRILL RIG: CME 75 Rotary Power WATER ELEVATION: 321.24 masl

GROUND ELEVATION: 329.79 masl NORTHING: 0560460.4 Page 1 of 2

EASTING: 4821866.9

MOE WELL TAG#: A268718

LO	GGE	D BY	: A. \	/erm	eers	ch/V. Peters D	RILL METHOD: 108 mm HSA, HQ water core	WATER L	EVEL DA	ATE: Septe	ember 1	18, 2019		
			SA	AMPL	.ES			F				REHOLE/COREHOLE DMPLETION DETAILS	ORGANIC V	/APOUR READING (ppm) eV Bulb PID
DEPTH (mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)				00 300 400
- - - 1	46	G1 SS1	11			Metals & Inorg. PAHs ABNs PHCs VOCs (11:40) (0.61-0.91)	ASPHALT: FILL: Sand and Gravel, brown, moist, fine to coarse sand and gravel, trace silt Increased coarse gravel below 0.28 mbgs. Silty Sand, brown, moist, fine, some gravel and cobbles.		329.67 0.12 329.18 0.61	329.49 0.30		Bentonite seal	⊕ ^{6.7} ⊕ ^{9.5} ⊕ ^{9.1}	
- 2	67	SS2	23			Metals & Inorg. PAHs ABNs	SAND: Brown, moist, fine to coarse, trace silt. SANDY SILT: Brown, dry, hard, high plasticity, fine sand, some clay, trace gravel.		327.96 1.83 327.66 2.13				⊕ ^{9.1}	-
- - 3 -		\$\$3 \$\$4	39 50/ 10cm			PHCs VOCs (15:12) (2:13-2:74)	SILTY SAND: Brown dense, dry, fine to medium, trace clay and fine gravel.		326.59 3.20				1 2.4 ♥ 1 10 10 10 10 10 10 10 10 10 10 10 10 1	
- - 4 -	96	SS5.	50+				SILT: Dark grey, hard, dry, low plasticity, some clay.		326.13 3.66				⊕6.8	-
- - 5	100	SS6	46			Metals & Inorg. PAHs ABNs PHCs VOCs (15:44) (4.57-5.18)							⊕ ^{8.4}	-
- - - 6	23	\$\$7	50/ 13cm			SAR				324.00 5.79		: #3 silica sand filter : pack : 50 mm diameter : SCH 40 PVC	⊕6.7	-
- -	92	SS8	14			EC (16:16) (6.10-6.71)	SANDY CLAYEY SILT TILL: Brown, hard, moist, medium plasticity, trace fine gravel, some mottling. SAND: Brown with some black and white, moist, medium grained. SANDY CLAYEY SILT TILL: Brown, moist, medium plasticity, trace fine gravel, some mottling.		323.54 6.25 323.39 6.40 323.08 6.71			pipe,#10-slot well	2.1	
- 7 - -		SS9	50/ 0cm	82	1 0		- Sampler refusal on bedrock at 7.01 mbgs, auger to 7.14 mbgs, ream HW casing to 7.62 mbgs, HQ coring begins at 7.16 mbgs. GUELPH FORMATION DOLOSTONE: Buff to light brown/grey, fine to medium grained, fresh to slightly weathered, moderately close to close joint spacing, thinly bedded, extremely fractured to sound, frequent 1 to 4 mm vugs with calcite lining.		322.78 7.01	322.65 7.14		96 mm corehole	3.4	-

Notes:

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Prepared by: MS



RECORD OF MONITORING WELL: MW104

NORTHING: 0560460.4

EASTING: 4821866.9

Page 2 of 2

CLIENT: City of Guelph DATE DRILLED: August 13, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

DRILL RIG: CME 75 Rotary Power WATER ELEVATION: 321.24 masl MOE WELL TAG#: A268718

LOGGED BY: A. Vermeersch/V. Peters DRILL METHOD: 108 mm HSA, HQ water core

WATER LEVEL DATE: September 18, 2019

GROUND ELEVATION: 329.79 masl

TOP OF PIPE: 329.64 masl

			SA	AMPL	ES			10	(masl)		COM	EHOLE/COREHOLE PLETION DETAILS	_	ANIC VAPO (ppi 10.6 eV E	m) Bulb PID	, –
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)			1	00 200		
					0		- Fresh, sound below 8.00 mbgs.									
					1		- Fe staining in fracture at 8.28 and 8.66 mbgs.					Ţ				
	98	RC2		98	1							_				
9					1					320.80 8.99 320.65						
					0			7//	320.27	9.14 320.57 9.22 320.27		Bentonite seal				
10							Bottom of corehole at 9.53 mbgs - 0 to 0.91 mbgs completed via test pit excavation on July 22, 2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon completion.		9.53	9.53						
10																
11																
11																
12																
13																
14																
15																

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Prepared by: MS



CLIENT: City of Guelph DATE DRILLED: August 13, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: A Vermeersch DRILL METHOD: 108 mm HSA HQ water core GROUND ELEVATION: 330.10 masl

WATER ELEVATION: 321.72 masl

TOP OF PIPE: 329.99 masl

NORTHING: 0560450.9

Page 1 of 2

EASTING: 4821820.9

MOE WELL TAG#: A268718

WATER LEVEL DATE: Sentember 18, 2019

			SA	MPL	.ES						B	ORE	HOLE/COREHOLE PLETION DETAILS	ORGANI	C VAPOUR REA (ppm)
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masi) ELEV. DEPTH (mbgs)		OIVIE			(ppm) 1.6 eV Bulb PID 200 300 4
	63	SS1	33				ASPHALT: FILL: Sand and Gravel, brown, medium dense, dry, fine and medium sand, fine gravel, trace silt.		—330.05 - 0.05	3 <u>29.80</u> 0.30	7 7	8	Flushmount casing secured in concrete 210 mm borehole Bentonite seal	⊕ ^{4.9}	
1	42	SS2	15											⊕ ^{7.7}	
2	46	SS3	50/ 8cm			Metals & Inorg PAHs ABNs PHCs VOCs (08:38) (1.52-2.13)	Frayer, cark prown, moist, line, some coarse sand, prick fragments increasing with depth. - 25 cm concrete at 1.88 mbgs.		3 <u>28.58</u> 1.52 3 <u>27.97</u>					⊕ ^{9.6}	
	93	S\$4	28				Silty Sand, brown, dense, dry, fine to medium, trace fine gravel, trace clay.		2.13					⊕ ^{9.6}	
3	88	SS5	38			Metals & Inorg PAHs ABNs PHCs VOCs (09:02) (3.05-3.66)		W 171 171 171 171 171 171 171 171 171 17	326.44 3.66					⊕ ^{5.2}	
4	100	SS6	50+				CLAYEY SILT TILL: Brownish grey, dry, medium to high plasticity, trace fine sand, trace fine gravel, dark brown mottling.		3.00					⊕ ^{3.7}	
5	100	SS7	41			Metals & Inorg PAHs ABNs PHCs VOCs (09:22) (4.57-5.18)				004.77				⊕ ^{6.5}	
	94	SS8	50/ 10cm				- 20 cm cobble at 5.74 mbgs.		324.16	324.77 5.33			50 mm diameter SCH 40 PVC pipe,#10-slot well	⊕ ^{4.5}	
6	106	SS9	50/ 13cm			SAR	SILTY SAND: Brown, dense, dry, fine to medium sand, trace fine gravel, trace clay. - 30 cm boulder at 6.25 mbgs.		5.94				screen	⊕ ^{3.6}	
7		SS10	50/ 5cm	50	1	(09:42) (6.55-6.71)	- Sampler refusal on bedrock at 6.86 mbgs, ream HW casing to 7.42 mbgs, HQ coring begins at 6.86 mbgs. - GUELPH FORMATION DOLOSTONE: Buff, very weak, slightly weathered to fresh, moderately close to close joint spacing, thinly bedded, fine to medium grained, fossiliferous, frequent vugs 1 to 5 mm; larger vugs have calcite lining 23 cm vertical fracture at 7.03 mbgs - Fe staining in fracture at 7.42 mbgs.		323.24 6.86	323.24 6.86			96 mm corehole		
					0		- Fresh, slightly fractured to sound, vug size and frequency increased to 1 to 10 mm.	/_/							

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CLIENT: City of Guelph DATE DRILLED: August 13, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: A Vermeersch DRILL METHOD: 108 mm HSA HQ water core GROUND ELEVATION: 330.10 masl

WATER ELEVATION: 321.72 masl

NORTHING: 0560450.9

Page 2 of 2

TOP OF PIPE: 329.99 masl EASTING: 4821820.9

WATER LEVEL DATE: Sentember 18, 2019

MOE WELL TAG#: A268718

			٠.	MDi	EC		RILL METHOD: 108 mm HSA, HQ water core				ember 18, 2019 BOREHOLE/COREHOLE	ORGANIC VAPO	OUR REAL
ļ	-	-	SA	MPL				6	(masl)		BOREHOLE/COREHOLE COMPLETION DETAILS	(ppr 10.6 eV E	m) Bulb PID
EPTH nbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		100 200	
					0		- Vugs <30 mm from 7.92 to 8.23 mbgs.	/_/			¥		
	100	RC2		98	0					321.41 8.69	¥		
9					2		- 30 mm vug at 9.04 mbgs.	7//		321.26 8.84	Bentonite seal		
							Bottom of corehole at 9.32 mbgs		320.78 9.32	320.78 9.32			
10													
10													
11													
12													
13													
14													
15													
										1			

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CH2M HILL Canada Limited



CLIENT: City of Guelph DATE DRILLED: August 20, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: J. Rybicki/V. Peters DRILL METHOD: 108 mm HSA, HQ water core GROUND ELEVATION: 328.23 masl

TOP OF PIPE: 328.12 masl

NORTHING: 0560496.2

EASTING: 4821729.0

MOE WELL TAG#: A268718

Page 1 of 2

WATER LEVEL DATE: September 18, 2019

WATER ELEVATION: 321.27 masl

			SA	AMPL	ki/V. ES			T		ATE: Sept	ВО	REHOLE/COREHOLE	ORGANIC VAPOUR REA
DEPTH (mbgs)	Recovery (%)	TYPE	SPT (N-value)		Fractures per 0.3 m	Parameters Analyzed (time) (sample interval	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		MPLETION DETAILS	100 200 300 4
1		G1				Metals & Inorg. PAHs ABNs PHCs VOCs MeHg (15:30) (0.15-0.46) Metals PAHs PHCs MeHg (15:45)	ASPHALT: FILL: Sand and Gravel, black, moist, trace silt, asphalt, brick, mortar, clay pipe. Sandy Gravel and Clay, brown, moist, low plasticity, trace cobbles. SAND: Light brown, moist, coarse, some coarse gravel, some cobbles, trace silt.		328.15 0.08 327.67 0.56 327.32 0.91	327.93 0.30	7.4 7.4	Flushmount casing secured in concrete 210 mm borehole Bentonite seal	ф ^{3.3}
2	67	SS1	34			(0.61-0.91)	CRAVELLY SILTY SAND. Grave very decay point from		326.03				⊕0.0
	94	SS2	50/ 10cm			Metals & Inorg. PAHs ABNs PHCs VOCs (08:35) (2.29-2.59)	GRAVELLY SILTY SAND: Brown, very dense, moist, trace clay, dolostone fragments (buff and grey), some cobbles.	a a	2.20				⊕0.0
3	88	SS3	50/ 13cm				- Dense below 3.66 mbgs.	o o					⊕0.0
4	79	SS4	34				Delice below coo inege.	o o					⊕0.0
5	63	SS5	27				- Compact below 4.57 mbgs 17 cm seam buff dolostone at 4.93 mbgs.	a . o .		222.05			⊕0.0
		SS6	50/ 3cm		46	SAR EC (09:22) (5.33-5.64)	- Sampler refusal on bedrock at 5.66 mbgs, ream HW casing to 5.69 mbgs, HQ coring begins at 5.69 mbgs. GUELPH FORMATION DOLOSTONE: Buff, fine to medium grained, vuggy 1-40 mm, calcite mineralization in vugs, fresh	a a	322.57 5.66	323.05 5.18 322.57 5.66		#3 silica sand filter pack 50 mm diameter SCH 40 PVC pipe,#10-slot well	⊕0.0
6	100	RC1		69	0 0		grained, vuggy, 1-40 min, clacke mineralization in vugs, riesh to slightly weathered, medium strong to strong, close to moderately close joint spacing, thickly bedded, extremely fractured to sound, massive, iron oxide staining, fossiliferous Fracture zone at 5.69 to 5.84 mbgs Large vug (10 mm wide by 20 mm long) at 6.12 mbgs.		7			screen 96 mm corehole	
7	100	RC2		100	1		- Slightly fractured to sound, vugs 1-30 mm below 6.50 mbgs. - Increased vug density and water loss at 7.29 to 7.34 mbgs.					¥	

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1. Information to be used for interpretation of environmental conditions only

Prepared by: MS



CLIENT: City of Guelph DATE DRILLED: August 20, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: J. Rybicki/V. Peters DRILL METHOD: 108 mm HSA, HQ water core GROUND ELEVATION: 328.23 masl

WATER ELEVATION: 321.27 masl

TOP OF PIPE: 328.12 masl

NORTHING: 0560496.2

Page 2 of 2

EASTING: 4821729.0

MOE WELL TAG#: A268718

WATER LEVEL DATE: September 18, 2019

			S	AMPI	ES			⊢			BOREHOLE/COREHOLE COMPLETION DETAILS	ORGAN	IIC VAPOL (ppm) 0.6 eV Bu	UR REAL ı)
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)	COM LETION DE PAILO		0.6 eV Bu	
					1		- Sound, vugs 1-10 mm below 8.00 mbgs. - 3 mm thick black/yellow vein at 8.36 mbgs. - Increased vug density at 8.53 to 8.94 mbgs.			319.70 8.53 319.54				
9	100	RC3		100	0					8.69	Bentonite seal			
					0		- Slightly fractured to sound, vugs 1-20 mm below 9.47 mbgs.							
10	100	RC4		100	1		- Fe staining in fracture at 10.31 mbgs.							
11					0		- Sound, vugs 1-15 mm below 11.05 mbgs.							
12	100	RC5		100	0									
					0		Increased vug density at 12.19 to 12.57 mbgs. Bottom of corehole at 12.57 mbgs 0 to 1.52 mbgs completed via test pit excavation on July 30, 2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon	///	315.66 12.57	315.66 12.57				
13							completion.							
14														
15														

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1. Information to be used for interpretation of environmental conditions only

Prepared by: MS



CLIENT: City of Guelph DATE DRILLED: August 19, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: J. Rybicki DRILL METHOD: 108 mm HSA, HQ water core GROUND ELEVATION: 329.17 masl

WATER ELEVATION: 322.69 masl

NORTHING: 0560464.0

Page 1 of 2

TOP OF PIPE: 329.03 masl EASTING: 4821768.8

MOE WELL TAG#: A268718

WATER LEVEL DATE: September 18, 2019

			SA	AMPL	.ES						BO CC	REHOLE/COREHOLE MPLETION DETAILS	ORGA	NIC VAPOUR REA (ppm) 10.6 eV Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)				0 200 300 4
	46	SS1	14			Metals & Inorg.	ASPHALT: FILL: Sand and Gravel, brown, compact, moist, trace silt, trace cobbles, trace asphalt.		329.06 0.11	328.87 0.30	2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 2.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3.7 3	Flushmount casing secured in concrete 210 mm borehole Bentonite seal	⊕ ^{0.5}	
1	25	SS2	24			PAHs PHCs VOCs (11:27) (0.76-1.37)	Sand, brown, compact, moist, trace silt, trace gravel, few		3 <u>27.72</u> 1.45				⊕0.7	
2	67	SS3	24				cobbles.		326.96				⊕0.7	
	63	SS4	65			Metals & Inorg. PAHs PHCs VOCs (11:46) (2:29-2:90)	SANDY GRAVEL: Brown, very dense, moist, some silt, trace clay, occasional cobbles.		326.96 2.21				⊕ ^{0.6}	
3	75	SS5	34				- Dense below 3.05 mbgs.						⊕0.2	
4	89	SS6	42				- Silty below 3.81 mbgs.						€ ^{0.2}	
5	79	SS7	50+			SAR EC (12:10) (4.57-5.03)	- Very dense below 4.57 mbgs Sampler refusal in bedrock at 5.39 mbgs, ream HW casing to 5.41 mbgs, HQ coring begins at 5.41 mbgs. - GUELPH FORMATION DOLOSTONE: Buff, fine to medium-grained, vuggy (1.20 mm), calcite mineralization in	7/	324.19 4.98	323.99 5.18			⊕ ^{1.6}	
	100		50/ 8cm	56	10+		vugs, fresh to slightly weathered, weak to medium strong rock, close to moderately close joint spacing, thickly bedded extremely to slightly fractured, massive. - Fracture Zone at 5.41 to 5.61 mbgs.			5.18 323.78 5.39		#3 silica sand filter pack 50 mm diameter SCH 40 PVC pipe,#10-slot well screen 96 mm corehole	⊕ ^{0.6}	
6	:				1		- Fe staining in rock matrix 6.12 to 6.35 mbgs Vugs 1-30 mm below 6.43 mbgs.					.		
7	100	BC3		82	0 2		- More frequent vugs at 6.86 to 6.93 mbgs.							
				υZ	10+		- Fracture Zone at 7.32 to 7.37 mbgs Fracture Zone at 7.47 to 7.57 mbgs.							

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1. Information to be used for interpretation of environmental conditions only



CLIENT: City of Guelph DATE DRILLED: August 19, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power GROUND ELEVATION: 329.17 masl

NORTHING: 0560464.0

Page 2 of 2

TOP OF PIPE: 329.03 masl EASTING: 4821768.8

WATER ELEVATION: 322.69 masl MOE WELL TAG#: A268718

LOG	GEI	D BY	: J. F	Rybic	ki		RILL METHOD: 108 mm HSA, HQ water core	WATER	LEVEL DA	ATE: Septe	ember 18, 2019		
			S	AMPI	ES						BOREHOLE/COREHOLE COMPLETION DETAILS	ORGANIC VAPOUR RE (ppm) 10.6 eV Bulb PII	EADII
DEPTH (mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	ELEV. DEPTH (mbgs)	(masi) ELEV. DEPTH (mbgs)		100 200 300	
- 9	100	ŔĊ3		100	1 2 0 1		- Fresh, medium strong, slightly fractured to sound, vugs 1-3 mm below 7.98 mbgs. Bottom of corehole at 9.35 mbgs	55 / /	319.82 9.35	320.79 8.38 320.64 8.53 320.33 8.84 319.82 9.35	Bentonite seal		
10													
11													
12													
13													
14													
15													
Notes 1. Inf	s: orma	ation	to be	e use	ed for	interpretation	of environmental conditions only CH2M HILL Cana	da Limi	ted			Prepared by: M	



CLIENT: City of Guelph

DATE DRILLED: November 20, 2019

NORTHING: 0560464.8

LOCATION: 55 Baker Street

DRILLER: Aardvark Drilling Inc.

EASTING: 4821768.7

PROJECT NUMBER: CE751900

DRILL RIG: CME 75 Rotary Power

WATER ELEVATION: 322.19 masl

MOE WELL TAG#: A273298

Page 1 of 2

LOGGED BY: M. Shiry

DRILL METHOD: 159 mm HSA, 127 mm Air Rotary

WATER LEVEL DATE: December 18, 2019

GROUND ELEVATION: 329.17 masl

TOP OF PIPE: 329.00 masl

			SA	AMPL	.ES			<u> </u>			BOREHOLE/COREHOLE COMPLETION DETAILS	ORGANIC VAPOUR REAL (ppm) 10.6 eV Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		10.6 eV Bulb PID
1							ASPHALT: FILL: Sand and Gravel, brown, compact, moist, trace silt, trace cobbles, trace asphalt.		329.06 0.11	328.87 0.30	Flushmount casing secured in concrete 260 mm borehole Bentonite seal	
2							Sand, brown, compact, moist, trace silt, trace gravel, few cobbles.		327.72 1.45			
2							SANDY GRAVEL: Brown, very dense, moist, some silt, trace clay, occasional cobbles.		326.96 2.21			
3							- Dense below 3.05 mbgs.					
4							- Silty below 3.81 mbgs.					
5							- Very dense below 4.57 mbgs. - HSA to 5.03 mbgs, air rotary begins at 5.03 mbgs. GUELPH FORMATION DOLOSTONE: Buff.		324.14 5.03	324.14 5.03	127 mm corehole	
6												
											_	
7												

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1. Information to be used for interpretation of environmental conditions only



CLIENT: City of Guelph DATE DRILLED: November 20, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: M. Shirv DRILL METHOD: 159 mm HSA. 127 mm Air Rotary GROUND ELEVATION: 329.17 masl

WATER ELEVATION: 322.19 masl

TOP OF PIPE: 329.00 masl

NORTHING: 0560464.8

EASTING: 4821768.7

MOE WELL TAG#: A273298

Page 2 of 2

WATER LEVEL DATE: December 18, 2019

			SA	AMPL	.ES						BOR	EHOLE/COREHOLE IPLETION DETAILS	ORGA	NIC VAP	OUR READ
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)		Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)	COIV	IF LETION DETAILS		(pp 10.6 eV l	300 40
9															
10															
11															
13										315.45 13.72		#2 silica sand filter			
14												pack 50 mm diameter SCH 40 PVC pipe,#10-slot well screen			
							Bottom of corehole at 15.62 mbgs - Lithology inferred from adjacent boring MW107.		313.55 15.62	313.78 15.39 313.63 15.54 313.55 15.62					

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1. Information to be used for interpretation of environmental conditions only

Prepared by: MS Reviewed by: ET



CLIENT: City of Guelph DATE DRILLED: August 16, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: J. Rybicki/V. Peters DRILL METHOD: 108 mm HSA, HQ water core

GROUND ELEVATION: 329.38 masl

WATER ELEVATION: 321.25 masl

TOP OF PIPE: 329.28 masl

NORTHING: 0560485.9

Page 1 of 2

EASTING: 4821875.5

MOE WELL TAG#: A268718

WATER LEVEL DATE: September 18, 2019

Ī			.5.	AMPL	ES						BOREHOLE/COREHOLE COMPLETION DETAILS	ORGANIC VAPOUR REAL
DEPTH (mbgs)	Recovery (%)	TYPE	SPT (N-value)		Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masi) ELEV. DEPTH (mbgs)	COMPLETION DETAILS	100 200 300 40
1		(G 1					ASPHALT: FILL: Sand and Gravel, red to brown, moist, some cobbles, trace silt, some asphalt in upper 20 cm.		329.26 0.12	329.08 0.30	Flushmount casing secured in concrete 210 mm borehole Bentonite seal	⊕4.4
2		G2				Metals & Inorg. PAHs PHCs VOCs Dioxins/Furans FOC (15:15) (1.52-1.83)			_327.09			⊕7.2
	71	SS1	32				Sand, brown to grey, dense, moist, some silt, some gravel.		2.29			⊕1.7
3	67	SS2	30				- Trace brick below 3.05 mbgs. - Black organic inclusions below 3.61 mbgs.					⊕ 1.6
4	83	SS3	43			Metals & Inorg. PAHs PHCs VOCs FOC (09:06) (3.81-4.42)			325.47 3.91			⊕1.7
5	88	SS4	66									⊕0.0
6	100	SS5	90			Metals & Inorg. PAHs PHCs VOCs FOC (09:31) (5.33-5.79)	- Some sand, dry to moist below 5.33 mbgs.					⊕0.0
	93	SS6	50/ 3cm				- Sampler refusal on bedrock at 6.43 mbgs, ream HW casing to 6.71 mbgs, HQ coring begins at 6.43 mbgs.		322 OF	322.05		⊕0.0
7		RC1		82	2		GUELPH FORMATION DOLOSTONE: Buff, fine to medium-grained, vuggy, calcite mineralization in vugs, fossiliferous, slightly weathered, medium strong rock, close to moderately close joint spacing, thinly bedded, sound, trace Fe staining in rock matrix. - Fresh to slightly weathered, moderately close to wide joint spacing, thinly bedded, slightly fractured to sound below 6.71 mbgs.		322.95 6.43	322.95 6.43 322.83 6.55	96 mm corehole #3 silica sand filter pack 50 mm diameter SCH 40 PVC pipe,#10-slot well screen	
	100	n.∪		J4	0							

Notes:

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IMICO

Information to be used for interpretation of environmental conditions only

Prepared by: MS



CLIENT: City of Guelph DATE DRILLED: August 16, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: I Rybicki/V Peters DRILL METHOD: 108 mm HSA HO water core GROUND ELEVATION: 329.38 masl

WATER ELEVATION: 321.25 masl

TOP OF PIPE: 329.28 masl

NORTHING: 0560485.9

EASTING: 4821875.5

MOE WELL TAG#: A268718

Page 2 of 2

WATER LEVEL DATE: Sentember 18, 2019

			S	AMPI	LES			-			BOREHOLE/COREHOLE COMPLETION DETAILS	ORGANIC VAPOUR (ppm) 10.6 eV Bulb I	REAL
DEPTH (mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		10.6 eV Bulb I	
					0		- Fresh, close joint spacing, medium to thinly bedded 8.03 mbgs.	7-/			▼		
					0								
	100	RC3		97	1								
9					1								
					1						¥		
10					0			7//		319.63 9.75 319.47 9.91			
10	100	RC4		95	2			7/		9.91			
					1		- 70 mm vug with calcite lining and 8 cm vertical fracture at 10.29 mbgs.	7//					
.					0								
11					0			7//					
					1		En staining in freetures at 41 61, 41 76, 41 94 and 41 04						
12	100	RC5		98	1		- Fe staining in fractures at 11.61, 11.76, 11.81 and 11.91 mbgs.						
12					2								
			-		0								
13					0								
	100	RC6		93	1								
					2		- Fe staining in fracture at 13.39 mbgs.						
14			<u>:</u>		0		Bottom of corehole at 13.94 mbgs - 0 to 2.13 mbgs completed via test pit excavation on July 25, 2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon completion.		315.44 13.94	315.44 13.94			
15													

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Information to be used for interpretation of environmental conditions only

Prepared by: MS



RECORD OF MONITORING WELL: MW109

TOP OF PIPE: 329.91 masl

CLIENT: City of Guelph DATE DRILLED: August 15, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

> DRILL RIG: CME 75 Rotary Power WATER ELEVATION: 321.70 masl

GROUND ELEVATION: 329.99 masl NORTHING: 0560485.3 Page 1 of 2

EASTING: 4821849.8

MOE WELL TAG#: A268718

ŀ	_		5/	MPL	ES.			5	(masl)		CC	DREHOLE/COREHOLE DMPLETION DETAILS	1	IIC VAPOUR READ (ppm) 10.6 eV Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)			100	200 300 40
		:G1.					ASPHALT: FILL: Sand and Gravel, reddish brown, moist, fine, trace silt. Silty Sand, brown, moist, fine, some coarse sand and cobbles, trace boulders <45 cm.	-	329.87 0.12 329.69 0.30	329.69 0.30	2 × 4	Flushmount casing secured in secured in concrete 210 mm borehole Bentonite seal	⊕3.6	
1		G2				Metals & Inorg. PAHs PHCs VOCs Dioxins/Furans (09:30) (0.76-1.07)	SANDY CLAY: Brown, moist to wet, fine to medium sand, medium plasticity, some coarse sand and coarse gravel,		328.85 1.14				⊕ ^{4.2}	
2	71	G3 SS1	11			(6.76 1.67)	some cobbles, some silt. - Dry to moist, trace cobbles below 1.52 mbgs.						⊕6.2 ⊕0.0	
	83	SS2	30			Metals & Inorg. PAHs PHCs VOCs FOC (10:42) (2:29-2:90)	SANDY SILT: Brown, dry, medium plasticity, some clay, trace fine gravel.		327.55 2.44				⊕0.0	
3	88	SS3	50+				SILTY SAND: Brown, moist, fine to coarse, trace fine gravel. SILT: Greyish brown, dry, low to medium plasticity, trace fine sand, trace fine gravel, trace clay.		326.77 3.22 326.71 3.28	:			⊕0.2	
4	100	SS4	48			Metals & Inorg. PAHs PHCs VOCs FOC (11:11) (3.81-4.42)	- Increased clay below 4.11 mbgs.						⊕0.4	
5	92	SS5	50+			SAR (11:20) (4.88-5.18)							⊕0.0	
	38	SS6	50/ 10cm		10+		- Auger and split spoon refusal at 5.59 mbgs, ream HW casing to 5.87 mbgs, HQ coring begins at 5.59 mbgs. GUELPH FORMATION DOLOSTONE: Buff, fine to medium-grained, vuggy, calcite mineralization in vugs, fossiliferous, slightly weathered, medium strong rock, close to the contract of th	to //	324.40 5.59	324.40 5.59		96 mm corehole		
6	74	RC1		46	0 1		moderately close joint spacing, thinly bedded, sound.		7 7 7					
7	92	RC2		87	2 2				7	322.98 7.01		#3 silica sand filter pack 50 mm diameter SCH 40 PVC pipe,#10-slot well		

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Information to be used for interpretation of environmental conditions only

Prepared by: MS



CLIENT: City of Guelph DATE DRILLED: August 15, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc. TOP OF PIPE: 329.91 masl

NORTHING: 0560485.3

Page 2 of 2 EASTING: 4821849.8

PROJECT NUMBER: CE751900

DRILL RIG: CME 75 Rotary Power

WATER ELEVATION: 321.70 masl

GROUND ELEVATION: 329.99 masl

MOE WELL TAG#: A268718

LOGGED BY: A. Vermeersch/V. Peters DRILL METHOD: 108 mm HSA. HQ water core

WATER LEVEL DATE: September 18, 2019

			SA	AMPL	.ES				(masl)		BOREHOLE/COREHOLE COMPLETION DETAILS	ORGA	(ppm) 10.6 eV Bu	UK KEAL I) IIb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)			200 3	
9	100	RC3		100	0 0 0									
10	98	RC4		87	0 3				319.47	319.63 10.36 319.47				
11							Bottom of corehole at 10.52 mbgs - 0 to 1.52 mbgs completed via test pit excavation on July 25, 2019 during archaeological investigation with CASE 580 backhoe, test pit backfilled with excavated material upon completion.		10.52	10.52				
12														
13														
14														
15														

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1. Information to be used for interpretation of environmental conditions only

Prepared by: MS

CH2M HILL Canada Limited



CLIENT: City of Guelph DATE DRILLED: November 20, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: M. Shirv DRILL METHOD: 159 mm HSA. 127 mm Air Rotary GROUND ELEVATION: 329.13 masl

WATER ELEVATION: 321.76 masl

TOP OF PIPE: 328.96 masl

NORTHING: 0560499.0

EASTING: 4821775.4

MOE WELL TAG#: A273298

Page 1 of 2

WATER LEVEL DATE: December 18, 2019

ļ			SA	AMPL	ES				(masl)		C	OREHOLE/COREHOLE OMPLETION DETAILS	ONGA	(pp 10.6 eV	OUR REA om) Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)	29	NG as			300 40
							ASPHALT: FILL: Silt Sand and Gravel, medium brown, medium dense, moist, fine to coarse sand and gravel, trace coal and cinders.		329.03 0.10	328.83 0.30	# 2 P	Flushmount casing secured in concrete 260 mm borehole Bentonite seal			
2							- Some buff dolostone cobbles below 1.22 mbgs.								
							SAND AND GRAVEL: Light brown, medium dense, dry to moist, fine to coarse sand and gravel, trace silt.		326.74 2.39						
3															
5							- Increased silt and gravel below 4.67 mbgs HSA to 5.64 mbgs, air rotary begins at 5.64 mbgs. GUELPH FORMATION DOLOSTONE: Buff to greyish buff.		324.20 4.93	324.10 5.03 323.95 5.18		127 mm corehole #2 silica sand filter pack 50 mm diameter SCH 40 PVC pipe,#10-slot well			
6												Screen			
7												¥			

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1. Information to be used for interpretation of environmental conditions only

Prepared by: MS



CLIENT: City of Guelph DATE DRILLED: November 20, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power GROUND ELEVATION: 329.13 masl

WATER ELEVATION: 321.76 masl

TOP OF PIPE: 328.96 masl

NORTHING: 0560499.0

Page 2 of 2

EASTING: 4821775.4

MOE WELL TAG#: A273298

			SA	MPLI	ES						BOREHOLE/COREHOLE COMPLETION DETAILS	ORGAN	IIC VAPOUR READ (ppm) 0.6 eV Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)			200 300 40
9						J	Bottom of corehole at 8.53 mbgs - Lithology inferred from adjacent boring MW110B.		320.60 8.53	320.75 8.38 320.60 8.53			
10													
11													
12													
13													
14													
15													

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IMICO

1. Information to be used for interpretation of environmental conditions only

Prepared by: MS Reviewed by: ET



CLIENT: City of Guelph DATE DRILLED: November 19, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power GROUND ELEVATION: 329.13 masl

WATER ELEVATION: 321.44 masl

TOP OF PIPE: 329.05 masl

NORTHING: 0560498.1

EASTING: 4821775.4

MOE WELL TAG#: A273298

Page 1 of 2

			SA	MPLI							Bi C	OREHOLE/COREHOLE COMPLETION DETAILS	ORGAN	NIC VAPOUR REA (ppm) 10.6 eV Bulb PID
EPTH	(%				σ c	Parameters Analyzed (time) (sample interval mbgs)	LITUOLO OVA DELLIDIO	STRATA PLOT	(masi) ELEV.	(masl)			-	10.0 CV Build 1 1D
nbgs)	Recovery (%)	ᇤ	SPT (N-value)	RQD (%)	Fractures per 0.3 m	netel /zec ne) inte gs)	LITHOLOGY & REMARKS	___\	DEPTH	ELEV.				
ilbys)	SOVE	TYPE	유	8	er 0	ran (ting) mb mb mb		TR/	(mbgs)	DEPTH				
	Rec		=	۱ ۳		Pa A Sam		S		(mbgs)			100	200 300 4
							ASPHALT:		329.03		2.4	Flushmount casi		
		-::::					FILL: Silt Sand and Gravel, medium brown, medium dense, moist, fine to coarse sand and gravel, trace coal and cinders		0.10	328.83	7	secured in concrete		
	75	004	19				Thoo, into to obtaine band and graver, trace obtained of the			328.83 0.30		260 mm borehol Bentonite seal	∍	
	75	SS1										bentonite sear	7	
								$\times\!\!\times\!\!\times$						
								\otimes						
1	63	SS2	16					$\otimes \otimes \otimes$					2.0	
	00							\otimes					T I	
							- Some buff dolostone cobbles below 1.22 mbgs.	$\times\!\!\times\!\!\times$						
								\otimes						
								$\otimes \otimes \otimes$						
	17	SS3						\otimes					\$2.7	
2								\bowtie		1				
								$\otimes \otimes \otimes$						
								$\times\!\!\times\!\!\times$	326.74 2.39					
			16				SAND AND GRAVEL: Light brown, medium dense, dry to moist, fine to coarse sand and gravel, trace silt.	000	2.39				24	
	67	SS4						0000					∳ ^{2.4}	
								000						
3								0 0 0 0						
								000						
	58	SS5	50+					0000		1			↓ 3.8	
	55	[]						000		1			Ϋ́	
								00000						
								0000		1				
4			_					00000						
	58	SS6	25					0000					∳3.0	
								0000						
								000		1				
								00000						
	٠.		50+				- Increased silt and gravel below 4.67 mbgs. - HSA to 5.64 mbgs, air rotary begins at 5.64 mbgs.	2000	00:00				2.9	
5	54	SS7					GUELPH FORMATION DOLOSTONE: Buff to greyish buff.	1,00.0	324.20 4.93	324.20 4.93	7	127 mm corehol	r	
Ĭ								7/,/		1				
								$Z_{\mathcal{I}}$						
	4	SS8	50/ 3cm					<u> </u>						
			55111					$\sqrt{2}$						
6								<u> </u>						
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								1-//		1				
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1. Information to be used for interpretation of environmental conditions only

Prepared by: MS



CLIENT: City of Guelph DATE DRILLED: November 19, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc. GROUND ELEVATION: 329.13 masl

TOP OF PIPE: 329.05 masl

NORTHING: 0560498.1

EASTING: 4821775.4

Page 2 of 2

PRO	DJEC	CT N	UMB	ER:	CE75	1900	DRILL RIG: CME 75 Rotary Power	WATE	R ELE\	/ATIC	ON: 321.4	4 masl	MOE WELL TAG	#: A273	298		
LOC	GE	D BY	: M.	Shir	у		DRILL METHOD: 159 mm HSA, 127 mm Air Ro	tary WATE	R LEVE	EL DA	TE: Dece	mber 18,	, 2019				
DEPTH (mbgs)	_	TYPE	SPT (N-value)	RQD (%)		Parameters Analyzed (time) (sample interval	LITHOLOGY & REMARKS	STRATA PLOT	EL DE	nasl) EV. PTH	(masi) ELEV. DEPTH (mbgs)	BORI COM	EHOLE/COREHOLE MPLETION DETAILS	ORGAN 1	IC VAPOI (ppm 0.6 eV Bu	UR REAL I) IIb PID	DI
- 9 - 10 - 11							- Highly permeable rock at 12.80 mbgs.				315.41 13.72		#2 silica sand filter pack 50 mm diameter 50 mm d0 pvtc pipe,#10-slot well screen		200 3		
							Bottom of corehole at 15.54 mbgs	7	7 31 7 31 15	3.59 5.54	313.74 15.39 313.59 15.54						

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1. Information to be used for interpretation of environmental conditions only

Prepared by: MS Reviewed by: ET



CLIENT: City of Guelph

DATE DRILLED: November 18, 2019

NORTHING: 0560456.7 EASTING: 4821830.2

LOCATION: 55 Baker Street

DRILLER: Aardvark Drilling Inc.

DRILL RIG: CME 75 Rotary Power

TOP OF PIPE: 330.01 masl

GROUND ELEVATION: 330.20 masl

WATER ELEVATION: 321.09 masl

MOE WELL TAG#: A273298

Page 1 of 3

PROJECT NUMBER: CE751900 LOGGED BY: V. Peters/M. Shirv

DRILL METHOD: 159 mm HSA. 127 mm Air Rotary

WATER LEVEL DATE: December 18, 2019

L			SA	MPLI				5	(masl)	L	BOREHOLE/COREHOLE COMPLETION DETAILS	10	IC VAPOUR RE (ppm) 0.6 eV Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)			200 300 4
							ASPHALT: FILL: Sand and Gravel, brown, dry, medium to coarse. Sand and Gravel, brown, dry, coarse, trace silt, some cobbles.		330.07 0.13 329.59 0.61	329.90 0.30	Flushmount casing secured in concrete 260 mm borehole Bentonite seal		
2	17	SS1	18				SANDY SILT TILL: Medium brown, moist, medium plasticity, fine sand, trace clay, trace fine gravel, trace medium to coarse sand.		328.37 1.83			9 5.1	
	75	SS2	50+				- Some fine to coarse gravel, hard below 2.29 mbgs. CLAYEY SILT TILL: Medium brown, moist, hard, high plasticity, trace fine to coarse sand, trace fine to coarse gravel.		327.69 2.51	-		∌ ^{5.7}	
3	92	SS3	38									∌ ^{3.8}	
4	100	SS4	50+									3 .0	
5	100	\$\$ 5	50+								II	∌3.0	
6	100	SS6	50/ 8cm				- 23 cm dolostone cobble at 5.33 mbgs.						
	100	'SS7'	50/ 5cm				GUELPH FORMATION DOLOSTONE: Buff to greyish buff HSA to 6.55 mbgs, air rotary begins at 6.55 mbgs.		324.10 6.10	323.65 6.55	127 mm corehole	2.4	
7													

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Information to be used for interpretation of environmental conditions only

Prepared by: MS Reviewed by: ET



CLIENT: City of Guelph DATE DRILLED: November 18, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: V. Peters/M. Shiry DRILL METHOD: 159 mm HSA, 127 mm Air Rotary GROUND ELEVATION: 330.20 masl

NORTHING: 0560456.7

Page 2 of 3

TOP OF PIPE: 330.01 masl EASTING: 4821830.2

WATER ELEVATION: 321.09 masl MOE WELL TAG#: A273298

WATER LEVEL DATE: December 18, 2019

			SA	AMPL	.ES			-			BOR COM	EHOLE/COREHOLE IPLETION DETAILS	ORGANIC \	/APOUR READ (ppm) eV Bulb PID
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)	331			eV Bulb PID
9												Ţ		
10														
12														
13										316.48 13.72		#2 silica sand filter pack 50 mm diameter SCH 40 PVC pipe,#10-slot well		
15							Bottom of corehole at 15.54 mbgs - 0 to 1.83 mbgs completed via test pit excavation on November 12, 2019 during archaeological investigation with Bobcat E55 excavator, test pit backfilled with excavated		314.66 15.54	314.81 15.39 314.66 15.54		screen		

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1. Information to be used for interpretation of environmental conditions only



CLIENT: City of Guelph DATE DRILLED: November 18, 2019

LOCATION: 55 Baker Street DRILLER: Aardvark Drilling Inc.

PROJECT NUMBER: CE751900 DRILL RIG: CME 75 Rotary Power

LOGGED BY: V. Peters/M. Shiry DRILL METHOD: 159 mm HSA, 127 mm Air Rotary GROUND ELEVATION: 330.20 masl

NORTHING: 0560456.7

TOP OF PIPE: 330.01 masl EASTING: 4821830.2

WATER ELEVATION: 321.09 masl

MOE WELL TAG#: A273298

Page 3 of 3

WATER LEVEL DATE: December 18, 2019

			SA	AMPL	.ES						BOREHOLE/COREHOLE COMPLETION DETAILS	ORG	ANIC VAP (pp 10.6 eV	OUR REA m)
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)	SS SE HON DE INICO		10.6 eV	
							material upon completion.							
17														
18														
19														
20														
21														
22														
23														

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1. Information to be used for interpretation of environmental conditions only

Prepared by: MS

CH2M HILL Canada Limited



CLIENT: City of Guelph

DATE DRILLED: April 9, 2020

GROUND ELEVATION: 328.34 masl

NORTHING: 0560472.8 Page 1 of 2

LOCATION: 55 Baker Street

DRILLER: Aardvark Drilling Inc.

TOP OF PIPE: 328.25 masl EASTING: 4821735.4

PROJECT NUMBER: CE751900

DRILL RIG: CME 75 Rotary Power

WATER ELEVATION: 322.78 masl

MOE WELL TAG#: A289787

LOGGED BY: J. Gowing DRILL METHOD: 108 mm HSA, 102 mm Air Rotary

WATER LEVEL DATE: April 15, 2020

Recovery (%)		(6)		, -	s a		2	(masl)				\vdash	(ppm) 10.6 eV Bulb F	FID
Rec	TYPE	SPT (N-value)	RQD (%)	Fractures per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	DEPTH (mbgs)	(masl) ELEV. DEPTH (mbgs)		P.A.	10	0 200 300) 40
71	SS1	12				ASPHALT: FILL: Sand and Gravel, black and dark brown, moist, trace clay and silt, trace asphalt and brick.		328.19 0.15	328.04 0.30	3.5 4.	Flushmount casing secured in concrete 210 mm borehole Bentonite seal	⊕0.4		
50	SS2	13			Metals & Inorg. PAHs PHCs VOCs (10:50) (0.76-1.37)	- Less gravel and clay below 1.07 mbgs.						⊕0.5		
79	SS3	49			Metals & Inorg. PAHs PHCs VOCs	Sandy Gravel, light brown, dry, low plasticity, coarse sand and gravel, some cobbles, trace clay.		3 <u>26.66</u> 1.68				⊕ ^{0.6}		
79	SS4	23			(11:00) (1.98-2.59)	- Less gravel below 2.44 mbgs 15 cm seam sandy silt at 2.59 mbgs.		325.29				⊕ ^{0.8}		
42	SS5	50/ 10cm				SAND AND GRAVEL: Light Brown, dry, very dense, some silt, trace clay, some cobbles.		3.05				⊕ ^{1.1}		
67	SS6	44				- Cobbles 3.81 to 4.42 mbgs.		202 77				⊕ ^{1.1}		
58	SS7	34				SILTY SAND: Brown, moist, dense, fine, trace clay. GUELPH FORMATION DOLOSTONE: Buff, trace Fe		323.16 5.18	323.31 5.03		#3 silica sand filter pack 50 mm diameter			
						staining HSA to 5.49 mbgs, air rotary begins at 5.49 mbgs.			322.85 5.49	→	SCH 40 PVC pipe,#10-slot well screen 102 mm corehole			
	50 79 79 42	79 SS3 79 SS4 42 SS5	79 SS3 49 79 SS3 23 42 SS5 10cm 67 SS6 44	79 SS3 49 79 SS3 49 79 SS4 23 42 SS5 10cm 67 SS6 44	71 SS1	71 SS1 50 SS2 13 Metals & Inorg. PAHs PHCs VOCs (10:50) (0.76-1.37) 79 SS3 49 Metals & Inorg. PAHs PHCs VOCs (11:00) (1.98-2.59) 79 SS4 23 49 Metals & Inorg. PAHs PHCs VOCs (11:00) (1.98-2.59) 67 SS6 44	Metals & Inorg. PAHs PHCs VOCs (10.50) (0.76-1.37) 79 SS3 49 Metals & Inorg. PAHs PHCs VOCs (10.50) (0.76-1.37) Metals & Inorg. PAHs PHCs VOCs (11.00) (1.98-2.59) 79 SS4 23 Sandy Gravel, light brown, dry, low plasticity, coarse sand and gravel, some cobbles, trace clay. Less gravel below 2.44 mbgs. - 15 cm seam sandy silt at 2.59 mbgs. SAND AND GRAVEL: Light Brown, dry, very dense, some silt, trace clay, some cobbles. - Cobbles 3.81 to 4.42 mbgs. SILTY SAND: Brown, moist, dense, fine, trace clay. GUELPH FORMATION DOLOSTONE: Buff, trace Fe staining.	Metals & Inorg. PAHs PHCs VOCS (10:50) (0.76-1.37) 79 SS3 49 Metals & Inorg. PAHs PHCs VOCS (10:50) (0.76-1.37) Metals & Inorg. PAHs PHCs VOCS (10:50) (0.76-1.37) Sandy Gravel, light brown, dry, low plasticity, coarse sand and gravel, some cobbles, trace clay. Metals & Inorg. PAHs PHCs VOCS (11:00) (1.98-2.59) - Less gravel below 2.44 mbgs 15 cm seam sandy silt at 2.59 mbgs. SAND AND GRAVEL: Light Brown, dry, very dense, some silt, trace clay, some cobbles. SAND AND GRAVEL: Light Brown, dry, very dense, some silt, trace clay, some cobbles. SILTY SAND: Brown, moist, dense, fine, trace clay. GUELPH FORMATION DOLOSTONE: Buff, trace Fe staining.	Metals & Inorg. PAH's PHCs VOCs (10.50) (0.76-1.37) SS3 49 Metals & Inorg. PAH's PHCs VOCs (11.50) (0.76-1.37) Sandy Gravel, light brown, dry, low plasticity, coarse sand and gravel, some cobbles, trace clay. Sandy Gravel, light brown, dry, low plasticity, coarse sand and gravel, some cobbles, trace clay. Sandy Gravel, light brown, dry, low plasticity, coarse sand and gravel, some cobbles, trace clay. Sandy Gravel, light brown, dry, low plasticity, coarse sand and gravel, some cobbles, trace clay. Sandy Gravel, light brown, dry, low plasticity, coarse sand and gravel, some cobbles, trace clay. Sandy Gravel, light brown, dry, low plasticity, coarse sand 1.68	Clay and silt, trace asphalt and brick. 326.04 0.30	Metals & Inorg PAHs PHCs	Metals & Inorg	Casy and silt, trace asphalt and brick. Casy and silt asphalt and gravel, some cobbles. Ca	April

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1. Information to be used for interpretation of environmental conditions only



CLIENT: City of Guelph

DATE DRILLED: April 9, 2020

NORTHING: 0560472.8

Page 2 of 2

LOCATION: 55 Baker Street

DRILLER: Aardvark Drilling Inc.

EASTING: 4821735.4

PROJECT NUMBER: CE751900

DRILL RIG: CME 75 Rotary Power

MOE WELL TAG#: A289787

LOGGED BY: J. Gowing

DRILL METHOD: 108 mm HSA, 102 mm Air Rotary

WATER ELEVATION: 322.78 masl WATER LEVEL DATE: April 15, 2020

GROUND ELEVATION: 328.34 masl

TOP OF PIPE: 328.25 masl

			: J. C				RILL METHOD: 108 mm HSA, 102 mm Air Rotary	WATER	1	·		ORGAN	NIC VAPOLIR I	RFAI
EPTH mbgs)	Recovery (%)	TYPE	SPT (N-value)	MPL (%) QC	Fractures 09 per 0.3 m	Parameters Analyzed (time) (sample interval mbgs)	LITHOLOGY & REMARKS	STRATA PLOT	(masl) ELEV. DEPTH	(masi) ELEV.	BOREHOLE/COREHOLE COMPLETION DETAILS		NIC VAPOUR I (ppm) 10.6 eV Bulb F	PID
	Reco		Ż	R.	Pel Pel	Para An (i (samp		LS LS	(mbgs)	DEPTH (mbgs)	<u> </u> 	100	200 300) 4
9							Bottom of corehole at 8.38 mbgs	7-7-	319.96 8.38	320.11 8.23 319.96 8.38				
10														
11														
12														
13														
14														
15														

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1. Information to be used for interpretation of environmental conditions only

Prepared by: JRG Reviewed by: ET

Appendix B

Borehole Logs

Borehole / Monitor Log Symbols

Soils and Rock



Topsoil



Sand



Till - sandy with gravel



Shale



Peat



Silty sand or sandy sat



Till - sity sand or sandy silt with gravel



Limestone or dolostone



Fill, rubble or waste



Silt



Till - clayey silt with gravel



Sandstone



Gravel



Clayey silt or silty day



Till - silty day with gravel



Other material or formation



Sand and gravel



Clay

Well Materials



PVC pipe (50 mm)



PVC pipe with grout or cement



PVC pipe with bentonite seal



PVC pipe with sand



PVC screen with # 10 slot



PVC screen with caved native material



PVC screen with filter or sand pack



Steel screen with filter or sand pack



Steel casing



150 mm steel casing with grout



PVC pipe grouted in steel casing





Open hole in bedrock



Backfill or caved native material balow well



Sand pack below well



100 mm steel casing with grout



Bentonite seal below well

Sample Types



Surface or grab sample



Auger or drill cuttings



Split spoon sample (SS)



Shelby tube sample (ST)



Continuous soil core (CS)



Bedrock core (NQ - 48 mm) (HQ - 64 mm)



Undisturbed



No Recovery

Borehole / Monitor Well Log BH - 1

Client : City Of Guelph

Project No. : 01-114

Project : Baker Street Parking Lot Location : Guelph_ON

Orlifer / Rig Type : Strata Drilling Inc., CME 75

Installation Date : June 25, 2001

Ground Elevation : 98.65 (relative)

Geologist : EK

Monitor Elevation : na

Depth (m)	Sradgnaphy	Description	Monitor Details	Sample Number	Type of Sample	N (blows per ft)	% Recovery	Remarks
0-		Ground Surface						<u> </u>
4		ASPHALT FILL Brown sandy silt fill, with places of construction		1	SS	42	70	MiniRae PID Reading 7,9 ppm
1	***	paper, stony with random pebbles. Moist.		2	SS	76	67	7.6 ppm (chemical analysis)
1 	***			3	SS	52	78	7.3 дерт
2-	***]
3	****	SILTY SAND WITH GRAVEL Brown silty sand (till like) with gravel. Moist.		4	SS	30	67	7.4 ppm (chemical analysis)
-				5	SS	25-2in		
4		Auger refusel at 5.2 m.		5A	SS	42	61	6.8 ppm (graîn size analysis)
5-				6	SS	72	67	6.7 ppm
- - - -	Alteria	End of Borehole						Borehole sealed with bentonite
6-								
, -TT								
7-								
8								
J. [-							
-	İ	This log was prepared for environ- mental purposes and should not						

Borehole / Monitor Well Lag BH - 2

Client : City of Guelph

Project No. : 01-114

Project : Baket Street Parking Lot Location : Guelph, ON

Driller / Rig Type: Strate Drilling Inc., CME 75

Installation Date : June 25, 2001

Ground Elevation: 98.583 (relative) Geologist: EK Monitor Elevation ; 98.463 (relative) Reviewed by : TK

Depth (m)	Sratigraphy	Description	Monitor Details	Sample Number	Type of Semple	N (blows per ft)	% Recovery	Remarks
0-		Ground Surface				ļ		
-	***	ASPHALT FILL		1	SS	28	72	MiniRae PID Reading 7.4 ppm
1		Brown sandy silt to silty sand fill, with atones and trace cobbles. Hard drilling - augers bouncing on cobbly material. Moist.		2	SS	33	42	7.9 ppm (chemical analysis)
	***	SILTY SAND WITH GRAVEL	1971	3	SS	64	44	8.6 ppm
2-		Brown silty sand (till like) with gravel. Moist.						
-				4	SS	56	83	7.2 ppm
3-								
-				5	\$\$	>50-3in	67	7.6 ppm
4-		Auger refusal at 4.9 m		6	SS	59	67	6.7 ppm
-				7	SS	>50-3in	0	7.7 ppm
5-		End of Borehole				-		
	! ! !							
6-	!							
1				1				
7-								
1								
8-								
"								
9-		This log was prepared for environ- mental purposes and should not relied upon for engineering use		,				

Borehole / Monitor Well Log BH - 3

Client: City of Guelph

Project No. : 01-114

Project : Baker Street Parking Lot Location -: Guelph, ON

Dritter / Rig Type : Strata Drilling Inc., CME 75

Installation Date : June 25, 2001

Ground Elevation: 99.435 (relative) Geologist: EK

Monitor Elevation : na

Depth (m)	Sredgraphy	Description	Monitor Details	Sample Number	Type of Sample	N (Dlows per ft)	% Recovery	Remarks
0-	AAAA	Ground Surface ASPHALT	i Bistonius (18	<u> </u>	<u> </u>			
-		FILL Brown stony sandy silt to silty sand fill, pieces of red brick, reddish soils, shaly or brick-like		1	88	29	42	MiniRee PiD Reading 6.9 ppm
1-		red brick, réddish soils, shalý or brick-like material. Moist		2	SS	43	33	5.8 ppm (chemical analysis)
2-								
	▓			3	SS	43	25	6.3 ppm
3-		SILTY SAND WITH GRAVEL Brown sitty sand (till-like) with gravel. Moist.		4	SS	30-2in	25	6.0 ppm (chemical analysis)
4-				5	SS	74	33	6.3 ppm (grain size analysis)
5-		Auger refusal at 5.9 m		['] 6	SS	49	56	6.0 ррт
6-								
-		End of Barehole						Borehole sealed with bentonite
7- - -			:					
- -8 -								
9 		This log was prepared for environ- mental purposes and should not be relied upon for engineering use						

Borehole / Monitor Well Log BH - 4

Client : City of Guelph

Project No. : 01-114

Project : Baker Street Parking Lot Location : Gueiph, ON

Driller / Rig Type : Strate Drilling Inc., CME 75

Installation Date : June 26, 2001

Ground Elevation : 100,00 (Relative) Geologist : EK Monitor Elevation : 99.91 (Relative) Reviewed by : TK

Depth (m) Sratigraphy	Description	Monitor Defails	Sample Number	Type of Sample	N (blows per ft)	% Recovery	Remarks
0-	Ground Surface ASPHALT FILL		1	SS	25	75	MiniRae PID Reading 5.3 ppm
1-1	Brown stony sandy fill, places of brick, red stained soils, gravelly. Moist		2	SS	16	38	6.0 ppm (chemical analysis)
2-			3	SS	9	13	7.9 ppm
3-4-1	SILTY SAND WITH GRAVEL Brown silty sand (till like) with gravel, trace coobles. Moist	Milliam	4	SS	41	42	6.3 ppm
			5	<u></u>	-> <u>50</u>	0	no sample
4-1	Auger refusal at 5.5 m.			SS	>50		no sample
5-			7.	SS	>50	20	6.2 ppm
6-	. End of Borehole] · ·] · ·] · ·					
7-							
, 				:			
9-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	This log was prepared for environ- mental purposes and should not be relied upon for engineering use						

Borehole / Monitor Well Log BH - 5

Client: City of Guelph

Project No.: 01-114

Project : Baker Street Parking Lot Location : Guelph, ON

Oriller / Rig Type : Strata Drilling Inc., CME 75

Installation Date : June 26, 2001

Ground Elevation: 99.77 (Relative) Geologist: EK

Monitor Elevation : na

Depth (m)	Satigraphy	Description	Monitor Details	Sample Number	Type of Sample	N (blows per ft)	% Recovery	Remarks
0-10-00-00	***	Ground Surface ASPHALT FILL Brown sandy silt fill, with stones. Moist.		1	s s	20	67	MiniRae PID Reading 6.2 ppm
1 1 5 6 6 6	***	The state of the s		2	\$8	33	42	7,2 ppm (chemical analysis)
2	***	SILTY SAND WITH GRAVEL Brown sity sand (till like) with gravel, some rust		3	SS	37	50	7.9 ppm
1		staining. Moist.		4	SS	67	72	9.1 ppm
3-4				5	SS	>50	44	9.1 ppm
4-1		CLAYEY SILT		6	SS	>50	19	8.1 ppm
5	1 14 14 14	Grey clayey slit (till like), trace rust staining along fractures. Moist.		7	SS	>50	50	9.3 ppm
7-	.1.6	End of Borehole						Borehole sealed with bentonite
9-		This log was prepared for environ- mental purposes and should not be relied upon for engineering use						

Borehole / Monitor Log BH - 6

Ctient : City of Guelph

Project No.: 01-114

Project : Baket Street Parking Lot

Location : Guelph, ON

Oriller / Rig Type: Strate Drilling Inc., CME 75

Installation Date : June 26, 2001

Ground Elev : 99.40 (Relative)

Geologist : EK

Monitor Elev : 99.26 (Relative)

Soits or Rock	Description	Monitor Details	Sample Number	Type of Sample	N (blows per ft)	% Recovery	Remarks
7777	Ground Surface ASPHALT	21.12					MiniRae PID Reading
	FILL Brown sandy silt fill, some clayey silt, trace		1	SS	14	50	5.9 ppm
	plèces of asphalt near top. Moist.		2	SS	5	32	6.3 ppm (chemical analysis)
	SAND Brown silty fine sand. Moist.		3	SS	14	5 8	5.6 ppm
	•		3	33	14		э.о рри
	SANDY SILT Brown sendy silt (till fike) with occassional and		4	SS	24	89	6,5 ppm (chemical analysis)
	random sand seam up to 4 cm thick (wet to saturated). Becoming grey below 4.9 m and		5	SS	29	75	5.9 ppm (grain size analysis)
	Measured depth to water in		6	SS	45	89	6.2 ppm
	monitoring well on Jul 6-2001 was 3.72m from top of casing						
	- Wag are an arranged by the same		7	SS	43	67	5.8 ppm
					•		
) -	End of Borehole						
1 📲							
2 = 1		•					
3 4							
5 =							
6 9							
7 Tangan 1 Tangan 1 Tangan	This log was prepared for environ- mental purposes and should not be relied upon for engineering use						

Borehole / Monitor Well Lag BH - 7

Client: City of Guelph

Project No.: 01-114

Project : Baker Street Parking Lot

Location : Guelph_QN

Driller / Rig Type: Strate Drilling Inc., CME 75

Installation Date : June 26, 2001

Ground Elevation: 99.80 (Relative) Geologist: EK

Monitor Elevation : na Review

Depth (m)	Sratigraphy	Description	Monitor Details	Sample Number	Type of Semple	N (blows par ft)	% Recovery	Remarks
0-	1	Ground Surface				•		
	-000000	ASPHALT				ļ		MiniRae PID Reading
	▓	FILL Brown stony gravelly fill, moist		1	\$\$	11	20	8.0 ppm
1-		SANDY SILT Brown sandy silt (till like), minor rust staining throughout. Moist.		2	SS	19	50	8.3 ppm (chemical analysis)
2-		throughout Moist		3	SS	42	42	8.4 ррт
				4	SS	>50	60	6.6 ppm (chemical analysis)
3-				5	SS	>50	63	6.7 ppm (grain size analysis)
		Auger refusal at 5.2 m.						
4-				6	55	85	42	7.2 ppm
5-				7	SS	>50	48	3.9 ppm
	111	End of Barehale						Borehole sealed with bentonite
6-	- - -							
	- - -		1					:
7-	-		اً					
	-							
8-								
9-		This log was prepared for environ- mental purposes and should not be relied upon for engineering use						



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-1

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: December 3, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: December 3, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
	1	AS	AS	ND	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ASPHALT SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining.	-0.46	
3 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	2	5	60	0.5	1977/1/2	SW - SAND (FILL) Brown, moist, no odour or staining.		
5 6 2 7	3	9	60	0.3	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		-2.13	
### ##################################	4	9	20	1.2	_	SM - SILTY SAND Brown, damp, no odour or staining.		
10 🗐 3					-		-3.20	
112	5	29	20	ND	•	GW - ANGULAR GRAVEL AND SAND Brown, dry, no odour or staining.		
13 4	6	31	40	ND		<i>ML - SILT</i> Brown, dry, no odour or staining.	-3.96	
15 16 17 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	7	39	40	ND				
18 19 19 19 19 19 19 19 19 19 19 19 19 19	8	40	60	ND				
	9	50+	10	ND				
22					1	Auger refusal at 7.01m, gravel, no odour or	-7.01	
23 7	10	50+	10	ND		staining. BEDROCK (LIMESTONE)	-7.01	
24 25						End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-10

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: November 27, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: November 27, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
					\sim	ASPHALT	-0.03	
1	1	AS	AS	ND		SW - SAND AND GRAVEL (FILL) Brown, dry, some small gravel (1cm diameter), no odour or staining.		
					}}}	Auger refusal at 0.76m, possible boulder or concrete.	-0.76	
					\sim	End of Borehole	-0.76	
3-1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -1 -						LIIU OI DOIEIIOIE		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-11

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem Auger
Sample Method: Split-Spoon Method
Start Date: November 27, 2008 Checked By: EF
Completed: November 27, 2008 Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
	1	AS	AS	ND	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ASPHALT SW - SAND (FILL) Brown, dry, no odour or staining.		
3 1 1	2	14	40	0.7	727272		-1.52	
ft ohnhalpahahal	3	38	40	0.4	<u> </u>	SW - SAND Light brown, moist, no odour or staining.	-1.52	
ահակրհահակրհահո	4	50+	70	ND	_			
10 10 11 11 11 11 11 11 11 11 11 11 11 1	5	50+	30	ND		Some small gravel, dry, no odour or staining.	-3.66	
13 4	6	50+	20	ND		ML - SILT Light brown, dry, no odour or staining.	4.57	
15	7	50+	5	ND		BEDROCK (LIMESTONE)	-4.57 -4.72	
16 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	,		J	5		Dry, auger refusal. End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-12

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: December 3, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: December 3, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	AS	AS	ND	{{}}{}	ASPHALT SW - SAND AND GRAVEL (FILL) Brown, dry, no odour staining.	-0.61	
## 0 1 2 3 4 5	2	2	50	0.4	¹ /2/2/2	SW - SAND (FILL) Brown, moist, no odour or staining.		
5 manufacture 2 7 manufacture	3	6	60	0.8	रिरिरी		-2.13	
8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	4	11	60	ND		SM - SILTY SAND Brown, moist, no odour or staining.	-2.74	
10 1 3						SW - SAND AND GRAVEL Brown, dry, trace silt, no odour or staining.		
11 12 12 12 12 12 12 12 12 12 12 12 12 1	5	16	20	ND	•	Grey at 3.35 m, no odour or staining.	-3.66	
13 4	6	30	40	ND		ML - SILT Brown, dry, hard, no odour or staining.		
15 16 5 17 17 15 1	7	39	40	ND				
18	8	37	60	ND	-			
20 1 5 21 22 1 22 1	9	45	10	ND	1			
23 7	10	50+	10	ND	1	Auger refusal at 7.16m, possible bedrock (limestone).	-7.16	
24						End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-13

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: November 25, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: November 25, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
1	1	AS	AS	ND	z z z z z z z z z z z z z z z z z z z	ASPHALT SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining.	-0.61	
2=					\{\{\}\}	SW - SAND AND GRAVEL (FILL)	-0.01	
3-1	2	50+	30	ND		Brown, very hard, dry, no odour or staining. SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining.	-1.07	
					{\{\}			
5	3	50+	20	0.6		Auger refusal at 2.0m, possible boulder or concrete, white powder on split spoon.	-1.98	
7						End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-14

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: November 25, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: November 25, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
1	1	AS	AS	ND		ASPHALT SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining.	-0.61	
2					~~	SW - SAND AND GRAVEL (FILL)		
3 1 4 1 4 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5	2	25	30	0.6		Brown, very hard, red brick fragments, dry, no odour or staining.	-1.52	
	3	50+	5	ND	PPPP	GW - GRAVEL (FILL) Red brick fragements, dry, no odour or Atago fusal at 1.83m, possible concrete or boulder.	-1.83	
7-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1						End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA **Client:** City of Guelph

Location: Baker Street Redevelopment Site

Driller: Geo-Environmental Drilling Inc.

Borehole Diameter: 203 mm Auger /100 mm Coring

Drill Method: Hollow Stem Augers and Tri-Cone Coring Start Date: November 28, 2008 Checked By: EF

Sample Method: Split-Spoon Method Completed: December 1, 2008 Logged By: LT

Depth	Sample No.	N-Value	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	Well Completion	Well Details
ft m						Ground Surface	0.0		
2	1	AS	AS	0.6	}{}}	ASPHALT SW - SAND AND GRAVEL (FILL)		g g	asing
4=	2	4	50	ND	\{\}{\}	Black brown, dry, no odour or staining.	-0.9	Concrete	teel Ca
6 2	3	10	60	ND	\{\}{\}	SW - SAND (FILL) Brown, dry, no odour or staining.	-2.1		Flush Mount Steel Casing
10 12 4 14 16 18 20 18 10 18 18 18 18 18 18 18 18 18 18 18 18 18	4	35	70	ND	•	SW - SAND AND GRAVEL Brown, dry, no odour or staining.		Bentonite	Flush N
10 1	5	33	20	0.2	• •	SW - SAND AND GRAVEL	-3.4	Bel	
14	6	21	30	ND	•	Grey brown, mixed angular gravel, dry, no odour or staining.	-4.6		
16	7	29	10	ND	•	SW - SAND AND GRAVEL Brown, trace limestone at 4.6m.	-4.9		
18						White, dry, no odour or staining.			
						BEDROCK (LIMESTONE) Air tri-cone coring.		Sand	T
22								#3 Silca Sa	Screen
24								#3	Slot 10 S
26 8								*	Jia. Slc
22 24 24 26 8 28 28 30 30 30 30 30 30 30 30 30 30 30 30 30							0.0		5cm Dia.
30-					1,1,1,1	End of Borehole	-9.3		▼

Groundwater Elevation: 89.945m

T.O.P Elevation: 98.135m

Screening Tool: Photovac 2020 PID

Monitoring Well Log

Sheet: 1 of 1

Privileged and Confidential

LOG OF WELL: BH-15-MW3



Project: Phase II ESA **Client:** City of Guelph

Location: Baker Street Redevelopment Site

Driller: Geo-Environmental Drilling Inc.

Borehole Diameter: 203 mm Auger/100 mm Coring

Drill Method: Hollow Stem Auger and Tri-Cone Coring Start Date: November 26, 2008 Checked By: EF

Sample Method: Split-Spoon Method Completed: November 28, 2008 Logged By: LT

Depth	Sample No.	N-Value	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	Well Completion	Well Details
ft m						Ground Surface	0.0		
2	1	AS	AS	ND	}{}}	ASPHALT SW - SAND AND GRAVEL (FILL)	-0.6	te	asing [_]
4=	2	3	50	1.1	?{}{ '}	Black brown, dry, no odour or staining. SM - SILTY SAND (FILL)	1 5	Concrete	Steel Ca
6 2	3	38	25	ND	•	Brown, dry, trace gravel, no odour or staining.	-1.5	nite	Flush Mount Steel Casing
8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	4	22	25	ND	•	SW - SAND AND GRAVEL Brown, small gravel 5mm, dry, no odour or staining. Angular gravel layer from 2.4 to 2.5m.		Bentonite	Flush
10=	5	14	20	ND		GM - SILTY SAND AND GRAVEL Brown, dry, no odour or staining.	-3.4		
14	6	16	30	ND	•	Brown, dry, no ododi or staining.	-4.6		
16	7	50+	10	ND		SW - SAND AND GRAVEL Brown, white limestone from 4.8 to	-4.9		
## 0						\\\\4.9m, dry, no odour or staining. \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		Silca Sand	→ ue
								#3 Silca (I0 Screen
24 8								X	5cm Dia. Slot 10
28 30 -						- L (5)	-8.9		← 5cı
30=						End of Borehole			

Groundwater Elevation: 90.840m

T.O.P Elevation: 98.450m

Screening Tool: Photovac 2020 PID

Monitoring Well Log

Sheet: 1 of 1

Privileged and Confidential

LOG OF WELL: BH-16 - MW2



Project: Phase II ESA
Client: City of Guelph

Location: Baker Street Redevelopment Site

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method:Hollow Stem AugeresStart Date:November 27, 2008Checked By:EFSample Method:Hollow Stem AugerCompleted:November 27, 2008Logged By:LT

									1
Depth	Sample No.	N-Value	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	Well Completion	Well Details
ft m						Ground Surface	0.0		
2	1	AS	AS	ND	1,1,1	ASPHALT SW - SAND AND GRAVEL (FILL) Black brown, dry, no odour or		ate ate	Casing [—]
4	2	3	50	0.2	13/3	staining.	-1.2	ite	Flush Mount Steel Casing
			0.5		المرارا	SM - SILTY SAND (FILL) Brown, dry, trace gravel, no odour or staining.		Bentonite	Mount
2	3	9	25	0.4	\ - - - -	SM - SILTY SAND	-2.1		Flush
8	4	8	25	ND		Brown, dry, no odour or staining.			T
անումանանականականականականականականականականակա	5	19	20	ND		Wet from 3.4 to 5.3m, no odour or staining.		#3 Silca Sand	5cm Dia. Slot 10 Screen
14	6	30	30	ND				#3 8	Dia. Slot
16	7	13	10	ND			-5.3		— 5cm [
18	8	29	20	ND		ML - SILT Grey, dry, no odour or staining.			±
22	9	28	50	ND					
-24	10	28	30	ND		Auger refusal at 7.3m. BEDROCK (LIMESTONE)	-7.2		
						End of Borehole			

Groundwater Elevation: 94.560m

T.O.P Elevation: 98.610m

Screening Tool: Photovac 2020 PID

Monitoring Well Log

Sheet: 1 of 1

Privileged and Confidential

LOG OF WELL: BH-17-MW5S



Project: Phase II ESA
Client: City of Guelph

Location: Baker Street Redevelopment Site

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: December 2, 2008Checked By: EFSample Method: Split Spoon MethodCompleted: December 2, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	Well Completion	Well Details
ft m						Ground Surface	0.0		
2	1	AS	AS	1.5	$\{ \}_j \}$	ASPHALT SW - SAND AND GRAVEL (FILL) Black to grey, black sand and trace		ate	Sasing [–]
	2	4	50	1.2	1333	brick fragments, moist, no odour or staining.	-1.2	ite	t Steel (
E 0 2 4 6 8 10 12 14 16 18 B 0 12 14 16 18 10	3	4	25	0.6	$\{l_i\}_{i=1}^l$	SW - SAND (FILL) Brown, moist to wet, no odour or staining. Wet at 1.7 metres.	-2.1	Bentonite	an ——▶ Flush Mount Steel Casing
8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	4	10	25	ND		SM - SILTY SAND Brown, moist to wet, no odour or staining.		#3 Silca Sand Be	Slot 10 Screen
10 Table 112 Tab	5	50+	20	ND		Dry at 3.7m, no odour or staining.	-3.8	#3 Silca	5cm Dia. Slo
14	6	26	30	ND		ML - SILT Brown to grey, dry, no odour or staining.			
16	7	50+	10	ND					<u>*</u>
18	8	50+	20	ND					
20 ft. 6 22 ft. 6	9	50+	50	ND					
24	10	50+	30	ND		Auger refusal at 7.3m, some gravel.	-7.3		
						End of Borehole			

Groundwater Elevation: 94.855m

T.O.P Elevation: 98.365m

Screening Tool: Phtotovac 2020 PID

Monitoring Well Log

Sheet: 1 of 1

Privileged and Confidential

LOG OF WELL: BH-18-MW1



Project: Phase II ESA
Client: City of Guelph

Location: Baker Street Redevelopment Site

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugersStart Date: December 3, 2008Checked By: EFSample Method: Split Spoon MethodCompleted: December 3, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	Well Completion	Well Details
ft m						Ground Surface	0.0		
	1	AAS	AS	ND	\{\}{\}	ASPHALT SW - SAND AND GRAVEL (FILL) Brown grey, moist, trace brick	-0.6	ate	casing —
4	2	4	60	0.8	14141	fragments, no odour or staining SW - SAND AND GRAVEL (FILL) Black brown, moist, brick fragments, no odour or staining.		Bentonite Benton	an ——▶ Flush Mount Steel Casing
6 2	3	5	60	0.3	\{\\	White cake fill 1.8m to 2.1m.	-2.1	Ber	lush Mc
անումանանականանականանականանականանանանականանանանականանանանականանանանանականանանանանանանանանանանանանանանանանանանա 2 4 6 8 10 12 14 16 16	4	25	20	ND		SW - SAND Brown, wet, no odour or staining.		#3 Silca Sand Be	5cm Dia. Slot 10 Screen Fl
10	5	32	20	ND		Grey at 3.4m, no odour or staining.	-3.7	#3 Silca	Dia. Slot
14	6	40	40	ND		<i>ML - SILT</i> Brown, dry, hard, no odour or staining.			
16	7	40	40	ND					*
18	8	50+	60	ND					
20 mm 6 22 mm 6 22 mm 6	9	50+	10	ND					
	10	50+	10	ND		Auger refusal at 7.2m.	-7.0		
24						BEDROCK (LIMESTONE) Dry, no odour or staining.			
						End of Borehole			

Groundwater Elevation: 94.990m

T.O.P Elevation: 98.230m

Screening Tool: Photovac 2020 PID

Monitoring Well Log

Sheet: 1 of 1

Privileged and Confidential

LOG OF WELL: BH-19-MW6



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-2

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: December 2, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: December 2, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
### ##################################	1	AS	AS	ND	}}}	ASPHALT SW - SAND AND GRAVEL (FILL) Brown, wet, no odour or staining.	-0.61	
3 1 4 1	2	4	60	0.8	\{\{\}	SW - SAND AND GRAVEL (FILL) Brown, moist, no odour or staining.		
5					~~		-1.52	
6 1 2 7 1 2	3	4	60	0.3	\{\{\}	SW - SAND (FILL) Brown, wet, no odour or staining.		
8	4	23	20	ND	<u>~</u>	GW - ANGULAR GRAVEL AND SAND	-2.44 -2.74	
9 2	•			.,,,		Grey, dry, no odour or staining.	-2.74	
11	5	18	20	ND		SW - SAND AND GRAVEL Brown, dry, 2cm of gravel, no odour or staining. Grey at 3.35m, no odour or staining.	-3.66	
12 13 4 14 14 14 14 14 14 14 14 14 14 14 14 1	6	16	40	ND		ML - SILT Brown, dry, hard, no odour or staining.		
15 16 17 17 17 17 17 17 17 17 17 17 17 17 17	7	50+	40	ND				
18	8	50+	60	ND				
19 6 20 11 6	9	50+	10	ND				
22	40	F.0		NB		Auger refusal at 7.16m.	-7.01	
23 7	10	50+	-	ND		BEDROCK (LIMESTONE)		
24 - 25 -						End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-3

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem Auger
Sample Method: Split-Spoon Method
Split-Spoon Method
Start Date: November 27, 2008 Checked By: EF
Completed: November 27, 2008 Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
	1	AS	AS	ND	1	ASPHALT SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining.		
3 1 4	2	9	60	0.7	1/1/1/1			
### ##################################	3	6	60	0.2	lllll			
8 9 0	4	25	20	ND	lllllll		-3.05	
11 11 11 12 12 12 12 12 12 12 12 12 12 1	5	50+	50	ND	_	SM - SILTY SAND Brown, moist to dry, some small gravel, no odour or staining.		
13 4	6	50+	40	ND		<i>GM - SILTY GRAVEL</i> Brown, very hard, dry, no odour or staining.	-3.96 -4.57	
15 16 17 5 17 5 17 5 17 5 17 5 17 5 17 5	7	33	30	ND	_	ML - SILT Dark grey, dry, no odour or staining.	-5.33	
18	8	38	20	ND		ML - SILT Brown, moist to wet, no odour or staining.	0.00	
21	9	50+	10	ND		Auger refusal at 6.55m.	-6.55	
22 7						End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

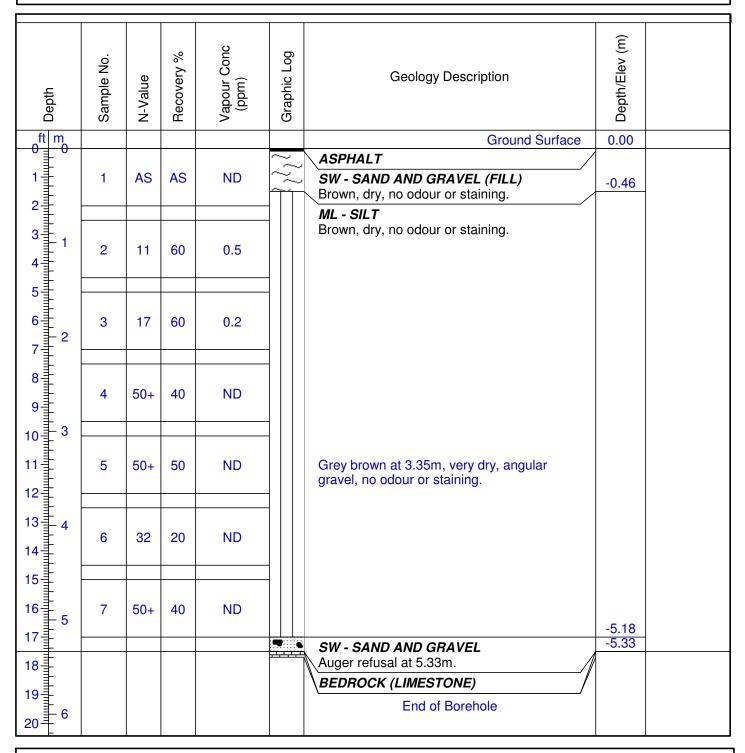
Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-4

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: November 26, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: November 26, 2008Logged By: LT



Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-5

Sheet: 1 of 1

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: November 25, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: November 25, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
1	1	AS	AS	0.2	$\{l_i\}_{i=1}^{l_i}$	ASPHALT SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining.	-0.61	
2					\sim	SW - SAND AND GRAVEL (FILL)	0.01	
3-1 1	2	6	40	0.8		Brown, grey, dry, trace red brick fragments, no odour or staining.		
1	3	50+	2	ND	~~	Auger refusal at 1.68m, possible concrete.	-1.62	
6-1-22						End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-6

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: November 25, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: November 25, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
	1	AS	AS	ND	12/2/2	ASPHALT SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining.	-0.61	
ահակահահակահակահակահում 2 3 4	2	5	70	ND	20000000000	SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining.		
5 1 2 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3	8	60	0.7	<i>રે_રેર્રેરેરે</i>		-2.13	
8 9 10	4	13	50	ND		SW - SAND Brown, dry, no odour or staining.		
10 10 11 11 11 11 11 11 11 11 11 11 11 1	5	33	30	0.5	_	Same as above.		
13 14 4	6	45	20	ND		BEDROCK (LIMESTONE)	-4.27 -4.42	
15 16 5 17 1-						Dry, no odour or staining. End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-7

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: November 25, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: November 25, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
1	1	AS	AS	ND		ASPHALT SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining.		
2-					} } }	SW - SAND AND GRAVEL (FILL)	-0.61	
3-1	2	50+	20	ND		Brown, angular gravel, very hard, some white powder at 0.91m, stone or bedrock, dry, no odour or staining.		
- - - - - -					\{\{\}	Auger refusal at 1.22m, possible boulder or concrete, white powder in split spoon.	-1.22	
5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA **Client:** City of Guelph

Location: Baker Street Redevelopment Site

Driller: Geo-Environmental Drilling Inc.

Borehole Diameter: 203 mm Auger / 100 mm Coring

Drill Method: Hollow Stem Auger and Tri-Cone Coring
Sample Method: Split-Spoon Method
Split-Spoon Method
Start Date: November 25, 2008
Checked By: EF
Completed: November 28, 2008
Logged By: LT

Depth	Sample No.	N-Value	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	Well Completion	Well Details
ft m						Ground Surface	0.0		
	1	AS	AS	ND	}{}	ASPHALT SW - SAND AND GRAVEL (FILL)	-0.6		sing
4=	2	9	70	ND		Brown, dry, no odour or staining. SW - SAND		Concrete	teel Ca
6 2	3	16	60	0.5		Light brown, dry, no odour or staining.		Bentonite	Flush Mount Steel Casing
8	4	29	50	11			-2.7		Flush N
10 11 11 11 11 11 11 11 11 11 11 11 11 1	5	17	40	0.5	•	SW - SAND AND GRAVEL Brown, angular gravel, white powdery limestone at 3.4m.	-3.4 -3.7		
14=	6	24	30	ND	•	SW - SAND AND GRAVEL Grey brown, dry, no odour or staining.			
16	7	36	20	ND	•	SW - SAND AND GRAVEL Brown, dry, hard, no odour or staining.	-4.9 -5.2		
18	8	50+	10	ND		SW - SAND AND GRAVEL		- N	
20 de la constant de						Brown, dry, no odour or staining. BEDROCK (LIMESTONE) Air tri-cone coring from 5.18m to 9.14m.	-9.1	#3 Silca Sand	◆ 5cm Dia. Slot 10 Screen ▶
						End of Borehole			

Groundwater Elevation: 90.935m

T.O.P Elevation: 97.845m

Screening Tool: Photovac 2020 PID

Monitoring Well Log

Sheet: 1 of 1

Privileged and Confidential

LOG OF WELL: BH-8-MW4



Project: Phase II ESA

Client: City of Guelph

Location: Baker Street Redevelopment Site

Privileged and Confidential

LOG OF BOREHOLE: BH-9

Driller: Geo-Environmental Drilling Inc. **Borehole Diameter:** 203 mm

Drill Method: Hollow Stem AugerStart Date: November 26, 2008Checked By: EFSample Method: Split-Spoon MethodCompleted: November 26, 2008Logged By: LT

Depth	Sample No.	N-Value	Recovery %	Vapour Conc (ppm)	Graphic Log	Geology Description	Depth/Elev (m)	
ft m						Ground Surface	0.00	
 	1	AS	AS	ND	\{\{\ \	ASPHALT SW - SAND AND GRAVEL (FILL) Brown, dry, no odour or staining. SW - SAND AND GRAVEL	-0.46	
3 1 1 4 1 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	2	6	30	ND		Brown, dry, no odour or staining.		
1 2 3 4 5 6 7	3	12	60	0.7		Angular gravel from 1.68 to 2.13m.		
ուկրհուհրհո 9	4	30	20	0.2				
10 10 11 11 11 11 11 11 11 11 11 11 11 1	5	11	50	ND		SW - SAND AND GRAVEL Brown, dry, no odour or staining.	-3.35	
13 hard	6	15	20	ND	•			
15 16 17 15 17 15 15 15 15 15 15 15 15 15 15 15 15 15	7	19	40	ND			-5.15	
18 19 19 6 20 1						BEDROCK (LIMESTONE) End of Borehole		

Ground Surface Elevation: NA Screening Tool: Photovac 2020 PID

For Environmental Purposes Only



Project: Phase II ESA **Client:** City of Guelph

Location: Baker Street Redevelopment Site

Driller: Geo-Environmental Drilling Inc.

Borehole Diameter: 203 mm Auger/100 mm Coring

Drill Method: Hollow Stem Auger and Tri-Cone Coring
Sample Method: Split-Spoon Method
Start Date: December 1, 2008
Checked By: EF
Completed: December 1, 2008
Logged By: LT

Well Completion Depth/Elev (m) Recovery (%) Vapour Conc Graphic Log Well Sample No. Depth **Geology Description** Details (mdd) N-Value 0.0 **Ground Surface ASPHALT** 1 AS AS ND Flush Mount Steel Casing Concrete SW - SAND AND GRAVEL (FILL) Black brown, dry, no odour or 2 3 50 0.2 -1.2 staining. SM - SILTY SAND (FILL) 0.4 3 9 25 Brown, dry, trace gravel, no odour -2.1 or staining. SM - SILTY SAND 4 8 25 ND Brown, dry, no odour or staining. 10 5 19 20 ND Wet from 3.4 to 5.3m, no odour or 12 staining. 6 30 30 ND 16-7 13 10 ND -5.3 18 ML - SILT 8 29 30 ND Grey, dry, no odour or staining. 20 手 6 9 28 ND 30 **22** \pm -7.0 Auger refusal at 7.3m. 28 30 ND 10 **BEDROCK (LIMESTONE) 24** 圭 Air tri-cone coring. 5cm Dia. Slot 10 Screen 261 8 Sand 28 Silca § #3 10 34 -10.736₹ End of Borehole

Groundwater Elevation: 91.060m

T.O.P Elevation: 98.650m

Screening Tool: Photovac 2020 PID

Monitoring Well Log

Sheet: 1 of 1

Privileged and Confidential

LOG OF WELL: BH-17-MW5D

Appendix D Investigation Derived Waste Management

TESLA

Environmental Services Inc. Division of Aevitas Inc. 1740 Brampton St.

Phone: (905) 679-2597

Fax: (905) 679-2013 Toll Free: (866) 663-6697

SERVICE/SALES DOCUMENT

WORK ORDER NO. 57221

C of A 3206-6APJHL

MASTE DESCRIPTION		PRICE PER UNIT	QUANTITY	CHARGE	HST	TOTAL CHARGES		2000		
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							CITY GUELF	PROV		ODE JULIFI
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		113013	2. 3/2					PROV	<u></u>	ODE/ 2T/A
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BOWR								NO. 145001	C	
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ORIGINAL - NOT NEGOTIABLE

75 WANLESS COURT, AYR, ONTARIO NOB 1E0 www.aevitas.ca (519) 740-1333

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Pursuant to applicable legislation, it is mutually agreed as to each carrier of all or any part of, said property over all or any said portion of said route to destination and as to each party, at any time interested in all or any said property, that every service performed hereunder shall be subject to all bill of lading terms and conditions in the governing classification on the date of stripment.

ZM35337-4

MOVEMENT DOCUMENT / MANIFEST DOCUMENT DE MOUVEMENT / MANIFESTE

This Movement document/misiriest conforms to all federal end provincial environmental legislation.

Ce document de minovernent/manifeste est conforme aux législations féderale et provincials sur l'environnement.

Movement Ducument / Monitosi Referenza Mo.
N° de référence de document de mouvement/ment/esse

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Guerator / consignor certification: I cortify that the me contents of this consignment are fully and accurate marked and labelly/obscarried, and are in all respects subsect governmental regulators fatesection du producteur / application; J'obissis des	a je budos coedejou ya parzbay seconjisă Alt qenopea spoke pi, que tudos zublaufi	roeme, and are c to spplicable inb	arcational and	Tecol	om de l'essent	indpend (pro)	Assessment .		822/	260	Shari danda Si	d/Dan despla	dison		edited arrests (Astride Mo	op / Mos	Day J.



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ORIGINAL - NOT NEGOTIABLE

75 WANLESS COURT, AYR, ONTARIO NOB 1E0 www.aevitas.ca (519) 740-1333

CARRIER: AEVITAS INC. Vehicle: 401 Name: 4 Signature: 42 FROM: same as carrier Shipper / Consignor: 44 Street: 45 Stree	Carrier's A 114865 Manifest No. Date: (A 7 - 24 - 20 - 24 - 20 - 24 + 20 - 20 - 20 - 20 - 20 - 20 - 20 - 20
City: Prov.: Postal Code: Tel. No.: Name: Signature:	City: Prov: Postal Code: Tel. No.: Name: Signature:
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NON HAZARDOUS DANGEROUS GOODS 62 Non-Hazardous Sal As per Manifed ## CF059	2894
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. Arrival Time	Name: Signature: Workers: Total Time on Site Notes: P.O.:

Pursuant to applicable legislation, it is mutually agreed as to each parter of all or any part of, said property over all or any said portion of said route to destination and as to each party, at any time interested in all or any said property, that every service performed hereunder shall be subject to all bill of lading terms and conditions in the governing classification on the date of shipment.

MOVEMENT DOCUMENT / MANIFEST DOCUMENT DE MOUVEMENT / MANIFESTE This Movement document/transfest conforms to all indered

and provincial environmental legislation.

lédérale et provinciale sur l'environnement.

De document de mouvement/manifeste est conforme aux législations

Equivalency Certificate SU7498 (Ren. 10) Equivalency Certificate SU 12427 (Ren 1)

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Appendix E Hydrogeological Investigation Measures

Table E-1a. Summary of Horizontal Hydraulic Gradient Calculations

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

Groundwater Elevation Date	Calculation	Groundwater Elevation A (masl)	Groundwater Elevation B (masl)	Distance between Contours (m)	i (m/m)
September 18, 2019	Maximum	322.30	321.70	24	0.025
September 18, 2019	Minimum	321.90	321.30	37	0.016
September 18, 2019	Average	322.10	321.30	45	0.018
December 18, 2019	Maximum	322.60	321.90	30	0.024
December 18, 2019	Minimum	322.00	321.30	56	0.012
December 18, 2019	Average	321.80	321.20	36	0.017
April 15, 2020	Maximum	322.70	322.30	27	0.015
April 15, 2020	Minimum	322.40	321.90	55	0.009
April 15, 2020	Average	322.80	322.20	45	0.013

Notes:

 Δ = delta (change in) i = (Δ H/ Δ D)

K = hydraulic conductivity

masl = metre(s) above sea level

m/m = metre(s) per metre

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Table E-1b. Summary of Vertical Hydraulic Gradient Calculations

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

Groundwater Elevation Date	Well ID (A)	Well ID (B)	Well A Screen mid-point (mbgs)	Well B Screen mid-point (mbgs)	ΔElevation (m)	Groundwater Elevation of Well A (HB) (masl)	Groundwater Elevation of Well B (HA) (masl)	Δ H (m)	i (m/m)	Direction
September 18, 2019	MW102A	MW102B	3.66	9.60	5.94	325.12	321.43	3.69	0.621	downwards
December 18, 2019	MW102A	MW102B	3.66	9.60	5.94	325.04	321.30	3.74	0.63	downwards
April 15, 2020	MW102A	MW102B	3.66	9.60	5.94	325.57	321.80	3.77	0.63	downwards
December 18, 2019	MW107	MW107B	6.86	15.39	8.53	322.72	322.19	0.52	0.06	downwards
April 15, 2020	MW107	MW107B	6.86	15.39	8.53	322.90	322.36	0.54	0.06	downwards
December 18, 2019	MW110A	MW110B	6.86	14.48	7.62	321.76	321.44	0.32	0.04	downwards
April 15, 2020	MW110A	MW110B	6.86	14.48	7.62	322.34	322.02	0.32	0.04	downwards

Notes:

 Δ = delta (change in)

 $i = (\Delta H/\Delta D)$

H = pressure head

ID = identification

masl = metre(s) above sea level

mbgs = metre(s) below ground surface

m/m = metre(s) per metre

mbgs = metre(s) below ground surface

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Table E-2. Summary of Horizontal Groundwater Velocity Calculations

55 Baker Street, 152 and 160 Wyndham Street North, Chapel Lane, and Park Lane, Guelph, Ontario

Groundwater Elevation Date	Calculation	i (m/m)	K(m/s)	Р	Velocity K*i/p (m/s)	Velocity (m/d)	Velocity (m/y)
September 18, 2019	Maximum	0.025	6.00E-06	0.1	1.50E-06	1.30E-01	47
September 18, 2019	Minimum	0.016	6.00E-06	0.1	9.73E-07	8.41E-02	31
September 18, 2019	Average	0.018	6.00E-06	0.1	1.07E-06	9.22E-02	34
December 18, 2019	Maximum	0.024	6.00E-06	0.1	1.42E-06	1.23E-01	45
December 18, 2019	Minimum	0.012	6.00E-06	0.1	7.49E-07	6.47E-02	24
December 18, 2019	Average	0.017	6.00E-06	0.1	1.00E-06	8.64E-02	32
April 15, 2020	Maximum	0.015	6.00E-06	0.1	8.89E-07	7.68E-02	28
April 15, 2020	Minimum	0.009	6.00E-06	0.1	5.49E-07	4.75E-02	17
April 15, 2020	Average	0.013	6.00E-06	0.1	8.07E-07	6.97E-02	25

K values from Table 6-3.

Notes:

 Δ = delta (change in)

 $i = (\Delta H/\Delta D)$

K = hydraulic conductivity

m/s = metre(s) per second

m/d = metre(s) per day

m/y = metre(s) per year

p = porosity

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Appendix F Laboratory Certificates of Analysis

Table F-1. Samples and Laboratory Certificates of Approval55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

CVC LOC CODE	CANADI F NIANAF	SAMPLE_TYPE_C	CAMPIE DATE	CTART DEPTH	END DEDTIL	_	MATRIX_C	IAD CDC
SYS_LOC_CODE	SAMPLE_NAME	ODE	SAMPLE_DATE	START_DEPTH	END_DEPTH	NIT	ODE	LAB_SDG
3H-03	BH-3 (SS2)	N	11/27/2008	0.8	1.4	m	SO SO	L713254
8H-04	BH-4 (SS2)	N	11/26/2008	0.8	1.4	m	SO	L712303
BH-05	BH-5 (SS2)	N	11/25/2008	0.8	1.4	m	SO	L712303
BH-06	BH-6 (SS5)	N	11/25/2008	3.1	3.7	m	SO	L712303
BH-07	BH-7 (SS2)	N	11/25/2008	0.8	1.2	m	SO	L712303
3H-08-MW4	BH-8 (SS4)	N	11/25/2008	2.3	2.9	m	SO	L712303
3H-08-MW4	BH-X-NOV25	N	11/25/2008	2.3	2.9	m	SO	L712303
3H-09	BH-9 (SS3)	N	11/26/2008	1.5	2.2	m	SO	L712303
BH-10	BH-10 (SS1)	N	11/27/2008	0	0.6	m	SO	L713254
BH-11	BH-11 (SS2)	N	11/27/2008	0.8	1.4	m	SO	L713254
3H-13	BH-13 (SS3)	N	11/25/2008	1.5	2	m	SO	L712303
3H-14	BH-14 (SS2)	N	11/25/2008	0.8	1.4	m	SO	L712303
3H-15-MW3	BH-15 (SS1)	N	11/26/2008	0	0.6	m	SO	L712303
3H-16-MW2	BH-16 (SS2)	N	11/26/2008	0.8	1.4	m	SO	L712303
BH-17-MW5S	BH-17 (SS3)	N	11/27/2008	1.5	2.1	m	SO	L713254
3H200	BH200-35-40	N	7/23/2019	0.89	1.01	m	SO	L231818
BH200	DUP1	FD	7/23/2019	0.89	1.01		SO	L231818
BH200		N N		2.29	2.9	m	50	L231818
	BH200-7.5-9.5		8/12/2019			m		
8H200	BH200-15-17	N	8/12/2019	4.57	5.18	m	SO SO	L232806
3H2O1	BH201-1-1.5'	N	7/24/2019	0.3	0.46	m	SO SO	L231818
3H2O1	BH201-4-4.5'	N	7/24/2019	1.22	1.37	m	SO	L231818
3H201	BH201-7.5-9.5	N	8/21/2019	2.29	2.9	m	SO	L233435
3H2O1	BH201-12.5-12.11	N	8/21/2019	3.81	3.94	m	SO	L233435
3H201	BH201-12.11"-13.2	N	8/21/2019	3.94	4.02	m	SO	L233435
3H201	BH201-25-27	N	8/21/2019	7.62	8.23	m	SO	L233435
3H202	BH202-2-2.5'	N	7/22/2019	0.61	0.76	m	SO	L231818
3H202	BH202-10-12	N	8/12/2019	3.05	3.66	m	SO	L232806
3H202	DUP11	FD	8/12/2019	3.05	3.66	m	SO	L232806
3H202	BH202-15-16.5	N	8/12/2019	4.57	5.03	m	SO	L232806
3H2O3	BH203-0.5-2	N	8/20/2019	0.15	0.61	m	SO	L233312
3H2O3	BH203-7.5-9.5	N	8/20/2019	2.29	2.9	m	SO	L233312
3H2O3	BH203-15-17	N	8/20/2019	4.57	5.18	m	SO	L233312
3H2O4	BH204 - 2.5-3.5'	N	7/30/2019	0.76	1.07		50	L233312
						m	50	L232000
3H2O4	BH204-11-12	N	8/22/2019	3.35	3.66	m		
3H2O4	BH204-15-15.11	N	8/22/2019	4.57	4.85	m	SO SO	L233435
3H2O4	BH204-17.5-18.9	N	8/22/2019	5.33	5.71	m	SO	L233435
3H205	BH205-0.5-2	N	8/12/2019	0	0.61	m	SO	L232806
3H205	BH205-2.5-4.5	N	8/12/2019	0.76	1.37	m	SO	L232806
3H205	BH205-7.5-9.5	N	8/12/2019	2.29	2.9	m	SO	L232806
3H205	DUP10	FD	8/12/2019	2.29	2.9	m	SO	L232806
3H205	BH205-10-12	N	8/12/2019	3.05	3.66	m	SO	L232806
3H205	BH205-12.5-15	N	8/12/2019	3.81	4.57	m	SO	L232806
3H206	BH206-1-2'	N	7/25/2019	0.3	0.61	m	SO	L231818
3H206	BH206-7.5-9.5	N	8/19/2019	2.29	2.9	m	SO	L233312
3H206	BH206-12.5-14.5	N	8/19/2019	3.81	4.42	m	SO	L233312
3H206	DUP15	FD	8/19/2019	3.81	4.42	m	SO	L233312
BH207	BH207I-1-2	N	4/9/2020	0.3	0.61	m	50	L243600
BH207	BH207I-7.5-9.5	N	4/9/2020	2.29	2.9		50	L243600
BH208	BH208-3-3.5	N	11/12/2019	0.91	1.07	m	50	L243600 L238142
						m		
3H208	BH208-7.5-8	N	11/21/2019	2.29	2.44	m	SO SO	L238657
3H208	DUP 4	FD	11/21/2019	2.29	2.44	m	SO SO	L238657
3H209	BH209-0.4-0.75	N	11/13/2019	0.12	0.23	m	SO SO	L238142
3H209	DUP 2	FD	11/13/2019	0.12	0.23	m	SO	L238142
H209	BH209-2-2.4	N	11/13/2019	0.61	0.73	m	SO	L238142
H209	DUP 3	FD	11/13/2019	0.61	0.73	m	SO	L238142
H210	BH210-3.5	N	11/21/2019	0.99	1.14	m	SO	L238657
H210	BH210-6.5-7	N	11/21/2019	1.98	2.13	m	SO	L238657
BH211	BH211-10-12	N	11/21/2019	3.05	3.66	m	SO	L238657
ЛW100	MW100-1.25-1.5'	N	7/24/2019	0.41	0.46	m	SO	L231818
MW100	MW100-7.5-9.5	N	8/22/2019	2.29	2.9	m	SO	L233435
MW100	MW100-15-17	N	8/22/2019	4.57	5.18	m	SO	L233435
MW101	MW100-13-17 MW101-1.5-2'	N	7/26/2019	0.46	0.61	m	SO	L233433
MW101	MW101-7.5-2	N	8/21/2019	2.29	2.9		SO SO	L231616
						m		
MW101	MW101-20-20.5 MW102-20-25	N N	8/21/2019 7/23/2019	6.1 0.51	6.25 0.63	m	S0 S0	L233312 L231818

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Table F-1. Samples and Laboratory Certificates of Approval55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

CVC LOC CODE	CAMPLE MANAF	SAMPLE_TYPE_C ODE	CAMPIE DATE	START_DEPTH	END_DEPTH	DEPTH_U NIT	MATRIX_C ODE	LAD CDC
SYS_LOC_CODE	SAMPLE_NAME		SAMPLE_DATE					LAB_SDG
MW102B	MW102-7.5-9.5	N	8/26/2019	2.29	2.9	m	SO SO	L2336718
1W102B	MW102-12.5-14.5	N	8/26/2019	3.81	4.42	m	SO	L2336718
1W102B	MW102-25-26	N	8/26/2019	7.62	7.92	m	SO	L2336718
1W103	MW103-2-2.5'	N	7/22/2019	0.56	0.71	m	SO	L2318180
1W103	MW103-12.5-14	N	8/14/2019	3.81	4.27	m	SO	L2330748
1W103	MW103-17.5-19.5	N	8/14/2019	5.33	5.94	m	SO	L2330748
1W103	MW103-22.5-24.5	N	8/14/2019	6.86	7.47	m	SO	L2330748
1W104	MW104-2.5-3'	N	7/22/2019	0.61	0.91	m	SO	L231818
1W104	DUP13	FD	8/13/2019	2.13	2.74	m	SO	L232806
1W104	MW104-7-9	N	8/13/2019	2.13	2.74	m	SO	L232806
1W104	MW104-15-17	N	8/13/2019	4.57	5.18	m	SO	L232806
1W104	MW104-22-23	N	8/13/2019	6.1	6.71	m	SO	L232806
1W105	MW105-5-6	N	8/13/2019	1.52	1.83	m	SO	L232806
1W105	MW105-10-12	N	8/13/2019	3.05	3.66	m	SO	L232806
MW105	DUP12	FD	8/13/2019	4.57	5.18	m	SO	L2328062
/W105	MW105-15-17	N	8/13/2019	4.57	5.18		SO	L2328062
						m		
MW105	MW105-21.5-22	N	8/13/2019	6.55	6.71	m	SO SO	L2328062
1W106	MW106 -0.5-1.5'	N	7/30/2019	0.15	0.46	m	SO SO	L232000
/W106	MW106 - 2-3'	N	7/30/2019	0.61	0.91	m	SO	L232000
MW106	MW106-7.5-8.5	N	8/20/2019	2.29	2.59	m	SO	L233312
MW106	MW106-17.5-18.5	N	8/20/2019	5.33	5.64	m	SO	L233312
MW107	MW107-2.5-4.5	N	8/19/2019	0.76	1.37	m	SO	L233312
1W107	MW107-7.5-9.5	N	8/19/2019	2.29	2.9	m	SO	L233312
1W107	MW107-15-16.5	N	8/19/2019	4.57	5.03	m	SO	L233312
ЛW108	MW108-5-6'	N	7/25/2019	1.52	1.83	m	SO	L231818
MW108	MW108-12.5-14.5	N	8/16/2019	3.81	4.42	m	SO	L233074
1W108	MW108-17.5-19	N	8/16/2019	5.33	5.79	m	SO	L233074
1W109	MW109-2.5-3.5'	N	7/25/2019	0.76	1.07	m	SO	L233818
1W109	MW109-8-9.5	N	8/15/2019	2.29	2.9		SO	L233074
						m		
MW109	DUP14	FD	8/15/2019	3.81	4.42	m	SO SO	L233074
/W109	MW109-12.5-14.5	N	8/15/2019	3.81	4.42	m	SO	L233074
ΛW109	MW109-16-17	N	8/15/2019	4.88	5.18	m	SO	L233074
MW112	MW112- 5.2-5.5	N	1/9/2020	1.58	1.68	m	SO	L240442
MW112	MW112-7.25-7.5	N	1/9/2020	2.21	2.29	m	SO	L240442
ΛW112	MW112-15.4-16'	N	1/18/2020	4.69	4.88	m	SO	L240727
ЛW113	MW113-2.5-4.5	N	4/9/2020	0.76	1.37	m	SO	L243600
ЛW113	MW113-6.5-8.5	N	4/9/2020	1.98	2.59	m	SO	L243600
CLP-Baker	TCLP- 20190827	N	8/27/2019				SO	L233670
CLP-Baker	TCLP COMP-0-6'	N	7/30/2019				SO	L231999
1W100	MW100	N	9/6/2019	5.49	8.53	m	WG	L234312
MW100	MW100	N	12/19/2019	5.49	8.53	m	WG	L239929
MW101	MW100	N	9/5/2019	5.71	8.76		WG	L234312
						m		
MW101	MW101	N	9/24/2019	5.71	8.76	m	WG	L235272
MW101	MW101	N	12/20/2019	5.71	8.76	m	WG	L239929
1W102A	MW102A	N	9/6/2019	2.13	5.18	m	WG	L234312
1W102A	MW102A	N	12/19/2019	2.13	5.18	m	WG	L239929
1W102B	MW102B	N	9/6/2019	8.84	10.36	m	WG	L234312
1W102B	MW102B	N	12/19/2019	8.84	10.36	m	WG	L239929
1W103	DUP1	FD	9/5/2019	2.13	5.18	m	WG	L234312
1W103	MW103	N	9/5/2019	2.13	5.18	m	WG	L234312
IW103	MW103	N	12/18/2019	2.13	5.18	m	WG	L239929
1W104	DUP2	FD	9/5/2019	5.94	8.99	m	WG	L234312
1W104	DUP3	FD	12/20/2019	5.94	8.99	m	WG	L239929
1W104	MW104	N	9/5/2019	5.94	8.99	m	WG	L234312
W104	MW104	N	12/20/2019	5.94	8.99	m	WG	L239929
W105	MW105	N	9/6/2019	5.64	8.69		WG	L234312
						m		
IW106	DUP2	FD	12/19/2019	5.49	8.53	m	WG	L239929
1W106	MW106	N	9/6/2019	5.49	8.53	m	WG	L234312
1W106	MW106	N	12/19/2019	5.49	8.53	m	WG	L239929
1W107	DUP3	FD	9/6/2019	5.33	8.38	m	WG	L234312
1W107	MW107	N	9/6/2019	5.33	8.38	m	WG	L234312
ЛW107	MW107	N	9/24/2019	5.33	8.38	m	WG	L235272
MW107	MW107	N	12/18/2019	5.33	8.38	m	WG	L239929
MW107B	MW107B	N	11/26/2019	13.56	15.39	m	WG	L238787
MW107B	MW107B	N	12/18/2019	13.56	15.39	m	WG	L239929

FES1202201128KW0 F-2

Table F-1. Samples and Laboratory Certificates of Approval55 Baker Street, 152 and 160 Wyndham Street North, and Park Lane, Guelph, Ontario

		SAMPLE_TYPE_C				DEPTH_U	MATRIX_C	
SYS_LOC_CODE	SAMPLE_NAME	ODE	SAMPLE_DATE	START_DEPTH	END_DEPTH	NIT	ODE	LAB_SDG
MW108	MW108	N	9/5/2019	6.71	9.75	m	WG	L2343122
MW108	MW108	N	12/19/2019	6.71	9.75	m	WG	L2399298
MW109	DUP1	FD	12/19/2019	7.32	10.36	m	WG	L2399298
MW109	MW109	N	9/5/2019	7.32	10.36	m	WG	L2343122
MW109	MW109	N	12/19/2019	7.32	10.36	m	WG	L2399298
MW110A	MW110A	N	11/26/2019	5.33	8.38	m	WG	L2387876
MW110A	MW110A	N	12/20/2019	5.33	8.38	m	WG	L2399298
MW110B	DUP	FD	11/26/2019	13.56	15.39	m	WG	L2387876
MW110B	MW110B	N	11/26/2019	13.56	15.39	m	WG	L2387876
MW110B	MW110B	N	12/20/2019	13.56	15.39	m	WG	L2399298
MW111	MW111	N	11/26/2019	13.56	15.39	m	WG	L2387876
MW111	MW111	N	12/19/2019	13.56	15.39	m	WG	L2399298
MW112	DUP1	FD	1/23/2020	5.94	8.99	m	WG	L2408835
MW112	MW112	N	1/23/2020	5.94	8.99	m	WG	L2408835
MW112	MW112	N	1/28/2020	5.94	8.99	m	WG	L2410311
MW113	DUP1	N	4/15/2020	5.33	8.38	m	WG	L2437013
MW113	MW113	FD	4/15/2020	5.33	8.38	m	WG	L2437013
MW113	MW113	N	4/22/2020	5.33	8.38	m	WG	L2439186
MW113	MW113	N	4/29/2020	5.33	8.38	m	WG	L2441806

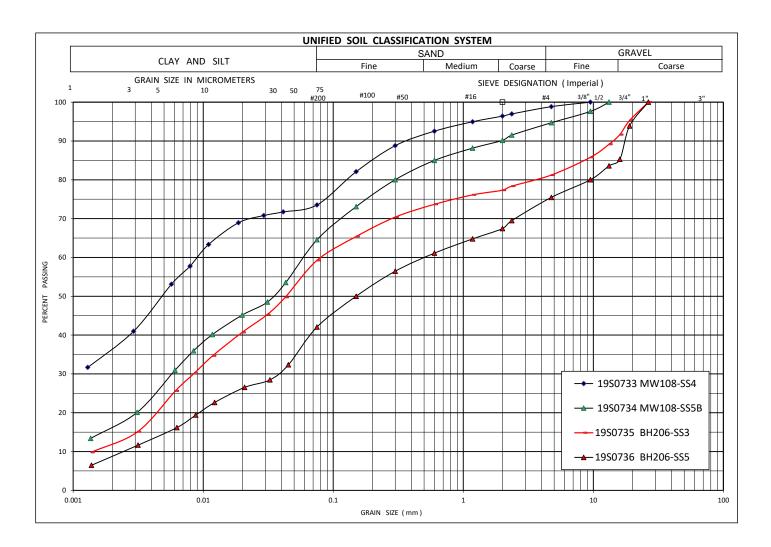
FES1202201128KW0 F-3



 Project No.
 : CE751900
 Report No.
 : 19S0733 - 736

 Project
 : Baker Street Investigation
 Date
 : 19-Sep-19

 Client
 : Jacobs
 SPCL Job No.
 : SP19-551-40



Sample No.	BH-SS	Percentage of							
Sample No.	рп-ээ	Gravel	Sand	Silt	Clay				
19S0733	MW108-SS4	1	25	38	36				
19S0734	MW108-SS5B	5	30	49	16				
19S0735	BH206-SS3	19	22	47	12				
19S0736	BH206-SS5	24	34	33	9				

****End of Report****

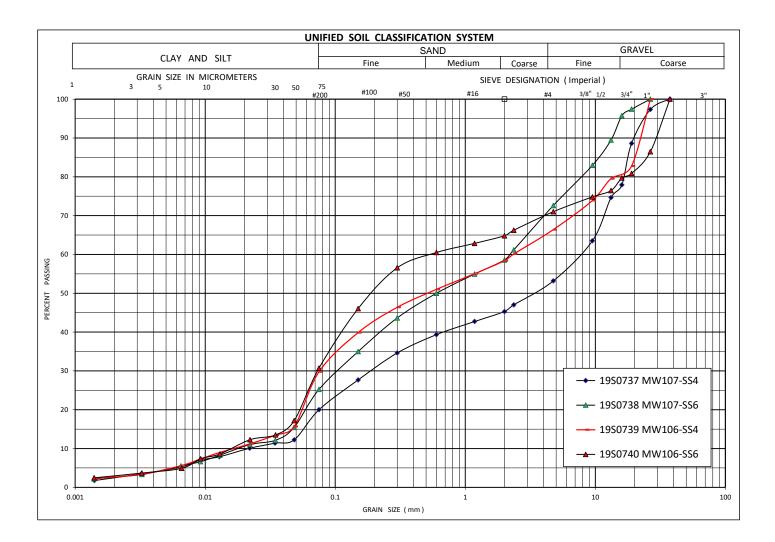
Page 1 of 1



 Project No.
 : CE751900
 Report No.
 : 19S0737 - 740

 Project
 : Baker Street Investigation
 Date
 : 19-Sep-19

 Client
 : Jacobs
 SPCL Job No.
 : SP19-551-40



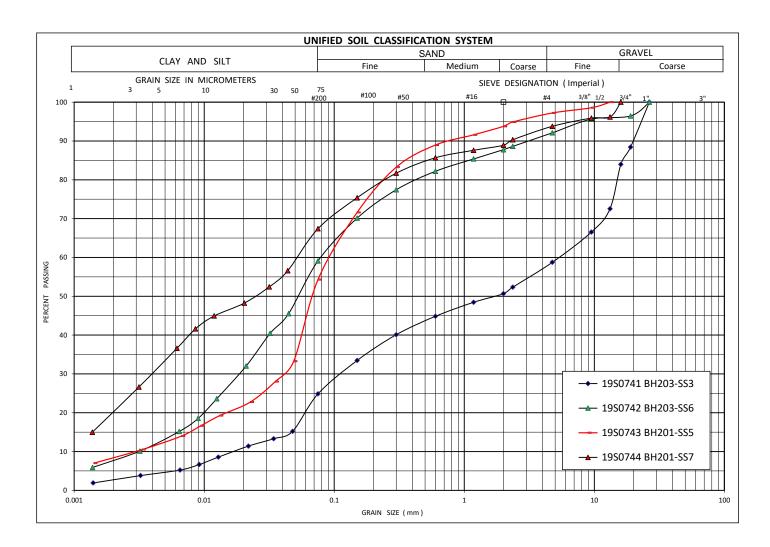
Sample No.	BH-SS	Percentage of							
Sample No.	рп-ээ	Gravel	Sand	Silt	Clay				
19S0737	MW107-SS4	47	33	17	3				
19S0738	MW107-SS6	27	48	22	3				
19S0739	MW106-SS4	34	36	26	4				
19S0740	MW106-SS6	29	40	27	4				

****End of Report****

Page 1 of 1



Project No.: CE751900Report No.: 19S0741 - 744Project: Baker Street InvestigationDate: 19-Sep-19Client: JacobsSPCL Job No.: SP19-551-40



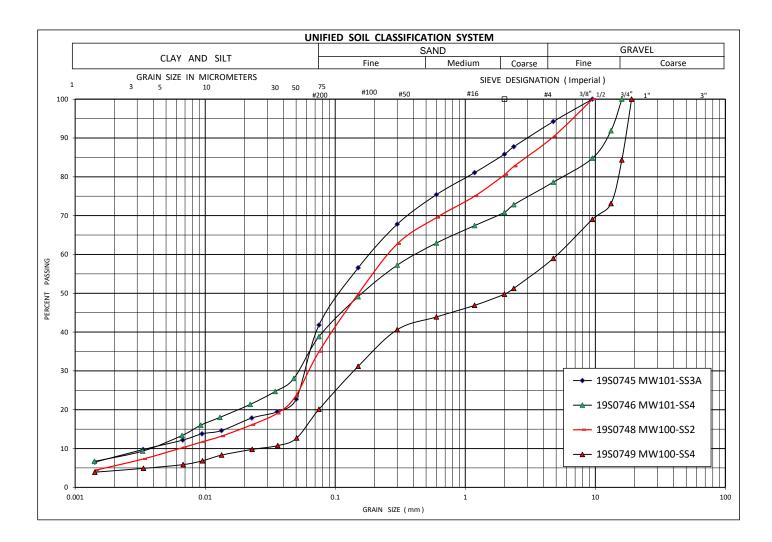
Sample No.	BH-SS	Percentage of						
Sample No.	рп-ээ	Gravel	Sand	Silt	Clay			
19S0741	BH203-SS3	41	34	22	3			
19S0742	BH203-SS6	8	33	52	7			
19S0743	BH201-SS5	3	43	46	8			
19S0744	BH201-SS7	6	27	46	21			

****End of Report****

Page 1 of 1



Project: Baker Street InvestigationDate: 19-Sep-19Client: JacobsSPCL Job No.: SP19-551-40



Sample No.	BH-SS	Percentage of						
Sample No.	DH-33	Gravel	Sand	Silt	Clay			
19S0745	MW101-SS3A	6	52	34	8			
19S0746	MW101-SS4	21	40	31	8			
19S0748	MW100-SS2	10	55	29	6			
19S0749	MW100-SS4	41	39	16	4			

****End of Report****

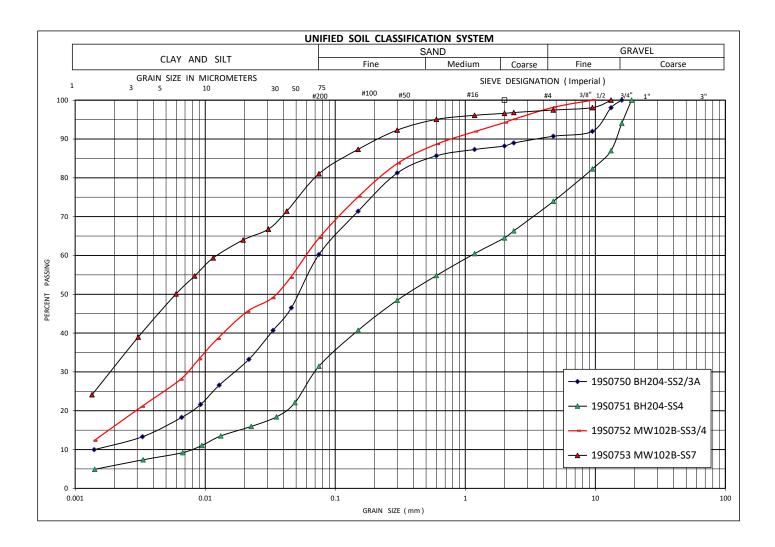
Page 1 of 1



 Project No.
 : CE751900
 Report No.
 : 19S0750 - 53

 Project
 : Baker Street Investigation
 Date
 : 19-Sep-19

 Client
 : Jacobs
 SPCL Job No.
 : SP19-551-40



Sample No	Sample No. BH-SS		Percentage of						
Sample No.	DH-33	Gravel	Sand	Silt	Clay				
19S0750	BH204-SS2/3A	9	31	49	11				
19S0751	BH204-SS4	26	42	26	6				
19S0752	MW102B-SS3/4	2	33	49	16				
19S0753	MW102B-SS7	3	16	50	31				

****End of Report****

Page 1 of 1





Certificate of Analysis

XCG CONSULTANTS LTD.

ATTN: THOMAS KOLODZIEJ

820 TRILLIUM DRIVE

Reported On: 01-DEC-08 03:23 PM

Revision: 3

KITCHENER ON N2R 1K4

Lab Work Order #: L712303

Date Received: 26-NOV-08

Project P.O. #:

Job Reference: 5-69

5-698-17-02

Legal Site Desc:

CofC Numbers: 69263

Other Information:

Comments: 01-DEC-08 NG/WT

REVISION 3: CORRECTED CALCULATION FOR F1-BTEX

MARY-LYNN PIKE Account Manager

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY. ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ALS Canada Ltd. (formerly ETL Chemspec Analytical Ltd.)
Part of the ALS Laboratory Group





ALS LABORATORY GROUP CRITERIA REPORT

5-698-17-02

L712303 CONTD.... Page 2 of 17 01-DEC-08 15:18:42

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
Jampie Details/1 arameters	rtoouit	Qualifici	D.L.	OTINO	I Ontona Opeo		Analyzeu	Daton
L712303-1 BH-14 (SS-2)								
Sampled By: LUKE T on 25-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R76363
Arsenic (As)	2		1	mg/kg	14	17	01-DEC-08	R76363
Selenium (Se)	<1		1	mg/kg	1.4	1.9	01-DEC-08	R76363
Boron (B), Available	0.2		0.1	ug/g			28-NOV-08	R76275
	<2		2		2.5	2.5		
Chromium, Hexavalent				mg/kg	2.5	2.5	28-NOV-08	R76276
Mercury (Hg)	0.09		0.05	ug/g	0.16	0.23	27-NOV-08	R76279
Standard Metal Scan (ICP)								
Barium (Ba)	28		1	mg/kg	190	210	28-NOV-08	R76350
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	28-NOV-08	R76350
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	28-NOV-08	R76350
Chromium (Cr)	7		1	mg/kg	67	71	28-NOV-08	R76350
Cobalt (Co)	2		1	mg/kg	19	21	28-NOV-08	R76350
Copper (Cu)	16		1	mg/kg	56	85	28-NOV-08	R76350
Lead (Pb)	29		1	mg/kg	55	120	28-NOV-08	R76350
Molybdenum (Mo)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R76350
Nickel (Ni)	4		1	mg/kg	43	43	28-NOV-08	R76350
Silver (Ag)	<0.2 <1		0.2	mg/kg	0.35	0.42	28-NOV-08	R76350
Thallium (TI) Vanadium (V)	10		1 1	mg/kg	2.5 91	2.5 91	28-NOV-08 28-NOV-08	R76350
Zinc (Zn)	63		1	mg/kg mg/kg	150	160	28-NOV-08	R76350 R76350
/OC, F1-F4 (O.Reg.153/04)	00		'	ilig/kg	130	100	20-110 7-00	1170550
CCME Total Hydrocarbons								
F1 (C6-C10)	<5	VC:RHS	5	ma/ka			01-DEC-08	
F1-BTEX	<5	VC.KIIS	5	mg/kg mg/kg			01-DEC-08	
F2 (C10-C16)	<10		10	mg/kg			01-DEC-08	
F2-Naphth	<10		10	mg/kg			01-DEC-08	
F3 (C16-C34)	<50		50	mg/kg			01-DEC-08	
F3-PAH	<50		50	mg/kg			01-DEC-08	
F4 (C34-C50)	56		50	mg/kg			01-DEC-08	
Total Hydrocarbons (C6-C50)	56		50	mg/kg			01-DEC-08	
Chromatogram to baseline at	YES			No Unit			01-DEC-08	
nC50								
Prep/Analysis Dates				No Unit			28-NOV-08	R76262
F2-F4 (O.Reg.153/04)								
Prep/Analysis Dates				No Unit			28-NOV-08	R76254
Surr: Octacosane	75		60-120	%			28-NOV-08	R76254
Volatile Organics (153/04) Table 1								
1,1,1,2-Tetrachloroethane	<0.008	VC:RHS	0.008	mg/kg			28-NOV-08	R76277
1,1,2,2-Tetrachloroethane	< 0.004	VC:RHS	0.004	mg/kg	0.004	0.004	28-NOV-08	R76277
1,1,1-Trichloroethane	<0.008	VC:RHS	0.008	mg/kg	0.009	0.009	28-NOV-08	R76277
1,1,2-Trichloroethane	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R76277
1,1-Dichloroethane	< 0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R76277
1,1-Dichloroethylene	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R76277
1,2-Dichlorobenzene	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R76277
1,2-Dichloroethane	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R76277
1,2-Dibromoethane	<0.004	VC:RHS	0.004	mg/kg	0.004	0.004	28-NOV-08	R76277

^{**} analytical results for this parameter exceed criteria limits listed on this report





ALS LABORATORY GROUP CRITERIA REPORT

5-698-17-02

L712303 CONTD.... Page 3 of 17 01-DEC-08 15:18:42

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
L712303-1 BH-14 (SS-2)								
					AGRICULTURAL	ALL OTHER		
Matrix: SOIL					OR OTHER	, the officer	_	
VOC, F1-F4 (O.Reg.153/04)								
Volatile Organics (153/04) Table 1								
1,2-Dichloropropane	< 0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,3-Dichlorobenzene	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,4-Dichlorobenzene	< 0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
2-Hexanone	<0.2	VC:RHS	0.2	mg/kg			28-NOV-08	R762774
Acetone	<0.5	VC:RHS	0.5	mg/kg			28-NOV-08	R762774
Benzene	< 0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Bromodichloromethane	< 0.005	VC:RHS	0.005	mg/kg	0.002	0.002	28-NOV-08	R762774
Bromoform	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Bromomethane	< 0.003	VC:RHS	0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Carbon Disulfide	< 0.02	VC:RHS	0.02	mg/kg	0.000	0.000	28-NOV-08	R762774
Carbon tetrachloride	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Chlorobenzene	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Chloroethane	< 0.03	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Chloroform	<0.006	VC:RHS	0.006	mg/kg	0.006	0.006	28-NOV-08	R762774
Chloromethane	<0.03	VC:RHS	0.000	mg/kg	0.000	0.000	28-NOV-08	R762774
cis-1,2-Dichloroethylene	<0.03	VC:RHS	0.03	mg/kg			28-NOV-08	R762774
	< 0.02	VC:RHS			0.003	0.003	28-NOV-08	
cis-1,3-Dichloropropene Dibromomethane	<0.003		0.003	mg/kg	0.003	0.003		R762774
Dibromochloromethane	<0.01	VC:RHS	0.01	mg/kg	0.003	0.002	28-NOV-08	R762774
Dichlorodifluoromethane	<0.003	VC:RHS VC:RHS	0.003	mg/kg	0.003	0.003	28-NOV-08 28-NOV-08	R762774
	< 0.003		0.03	mg/kg	0.003	0.003		R762774
Dichloromethane	<0.003	VC:RHS	0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Ethyl Benzene MTBE	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
		VC:RHS	0.2	mg/kg			28-NOV-08	R762774
m+p-Xylenes	<0.002	VC:RHS	0.002	mg/kg			28-NOV-08	R762774
Methyl Ethyl Ketone	<0.2	VC:RHS	0.2	mg/kg			28-NOV-08	R762774
Methyl Isobutyl Ketone	<0.2	VC:RHS	0.2	mg/kg			28-NOV-08	R762774
o-Xylene	<0.002	VC:RHS	0.002	mg/kg		2 222	28-NOV-08	R762774
Styrene	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Tetrachloroethylene	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Toluene	<0.002	VC:RHS	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
trans-1,2-Dichloroethylene	<0.002	VC:RHS	0.002	mg/kg	0.003	0.003	28-NOV-08	R762774
trans-1,3-Dichloropropene	<0.003	VC:RHS	0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Trichloroethylene	<0.004	VC:RHS	0.004	mg/kg	0.004	0.004	28-NOV-08	R762774
Trichlorofluoromethane	< 0.03	VC:RHS	0.03	mg/kg			28-NOV-08	R762774
Vinyl chloride	< 0.003	VC:RHS	0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Xylenes (Total)	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Surr: 1,2-Dichloroethane d4	100		25-175	%			28-NOV-08	R762774
Surr: Toluene-d8	90		25-175	%			28-NOV-08	R762774
Surr: 4-Bromofluorobenzene	102		25-175	%			28-NOV-08	R762774
Individual Analytes								
% Moisture	10.7		0.5	%			27-NOV-08	R762204
CCME PAHs								
1-Methylnaphthalene	< 0.05		0.05	mg/kg	0.05	0.26	01-DEC-08	R763496
2-Methylnaphthalene	< 0.05		0.05	mg/kg			01-DEC-08	R763496
Acenaphthene	< 0.05		0.05	mg/kg	0.05	0.07	01-DEC-08	R763496
Acenaphthylene	< 0.05		0.05	mg/kg	0.08	0.08	01-DEC-08	R763496
Acridine	<0.8		0.8	mg/kg			01-DEC-08	R763496
** analytical results for this parameter exceed o								

^{**} analytical results for this parameter exceed criteria limits listed on this report





ALS LABORATORY GROUP CRITERIA REPORT

5-698-17-02

L712303 CONTD.... Page 4 of 17 01-DEC-08 15:18:42

Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
L712303-1 BH-14 (SS-2)								
Sampled By: LUKE T on 25-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
IVIALITIX. SOIL					OR OTHER		_	
Individual Analytes								
-								
CCME PAHs								
Anthracene	<0.05		0.05	mg/kg	0.05	0.16	01-DEC-08	R763496
Benzo(a)anthracene	0.14		0.05	mg/kg	** 0.10	0.74	01-DEC-08	R763496
Benzo(a)pyrene	0.24		0.02	mg/kg	** 0.10	0.49	01-DEC-08	R763496
Benzo(b)fluoranthene	0.18		0.05	mg/kg	0.30	0.47	01-DEC-08	R763496
Benzo(g,h,i)perylene	0.22		0.05	mg/kg	** 0.20	0.68	01-DEC-08	R763496
Benzo(k)fluoranthene	0.11		0.05	mg/kg	** 0.05 ** 0.18	0.48	01-DEC-08	R763496
Chrysene	0.18		0.05	mg/kg	0.10	0.69	01-DEC-08	R763496
Dibenzo(ah)anthracene	0.13 0.19		0.05	mg/kg	0.15 0.24	0.16	01-DEC-08	R763496
Fluoranthene	<0.05		0.05	mg/kg	0.24	1.1	01-DEC-08	R763496
Fluorene	0.14		0.05	mg/kg	** 0.11	0.12 0.38	01-DEC-08 01-DEC-08	R763496
Indeno(1,2,3-cd)pyrene Naphthalene	<0.05		0.05 0.05	mg/kg	0.05	0.09	01-DEC-08	R763490
Phenanthrene	0.09			mg/kg	0.05	0.69	01-DEC-08	
Pyrene	0.09		0.05 0.05	mg/kg mg/kg	0.19	1.0	01-DEC-08	R76349 R76349
Quinoline	<0.05		0.05		0.19	1.0	01-DEC-08	R76349
Surr: 2-Fluorobiphenyl	107		50-150	mg/kg %			01-DEC-08	R76349
Surr: p-Terphenyl d14	96		52-158	% %			01-DEC-08	R76349
	9.63							
рН	9.03		0.01	pH units			27-NOV-08	R762512
L712303-2 BH-8 (SS-4)								
Sampled By: LUKE T on 25-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		-	
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R76363
Arsenic (As)	1		1	mg/kg	14	17	01-DEC-08	R76363
Selenium (Se)	<1		1	mg/kg	1.4	1.9	01-DEC-08	R76363
Boron (B), Available	<0.1		0.1	ug/g			28-NOV-08	R76275
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	28-NOV-08	R76276
Mercury (Hg)	<0.05		0.05	ug/g	0.16	0.23	27-NOV-08	R76279
	٧٥.٥٥		0.03	ug/g	0.10	0.23	27-110-0-00	1170273
Standard Metal Scan (ICP)	40			,,	400	040	00 1101/ 00	D700F0
Barium (Ba)	12		1	mg/kg	190	210	28-NOV-08	R76350
Beryllium (Be)	< 0.5		0.5	mg/kg	1.2	1.2	28-NOV-08	R76350
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	28-NOV-08	R76350
Chromium (Cr)	5		1	mg/kg	67	71	28-NOV-08	R76350
Cobalt (Co)	2 6		1	mg/kg	19	21 95	28-NOV-08	R76350
Copper (Cu)	8		1	mg/kg	56 55	85 120	28-NOV-08	R76350
Lead (Pb) Molybdenum (Mo)	δ <1		1	mg/kg	55	120 2.5	28-NOV-08	R76350
Nickel (Ni)	3		1	mg/kg	2.5 43	2.5 43	28-NOV-08	R76350
` '	ە <0.2		1	mg/kg			28-NOV-08	R76350
Silver (Ag) Thallium (TI)	<0.2 <1		0.2 1	mg/kg	0.35 2.5	0.42 2.5	28-NOV-08 28-NOV-08	R76350 R76350
Vanadium (V)	4		1	mg/kg	91	2.5 91	28-NOV-08	R76350
Zinc (Zn)	4 47		1	mg/kg mg/kg	150	160	28-NOV-08	R76350
VOC, F1-F4 (O.Reg.153/04)			'	ilig/kg		100	20-140 4-00	117 0000
(S.1.091100104)								

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
L712303-2 BH-8 (SS-4)								
Sampled By: LUKE T on 25-NOV-08								
' '					A C DICLII TUDAI	ALL OTHER		
Matrix: SOIL					AGRICULTURAL OR OTHER	ALE OTTER		
							-	
VOC, F1-F4 (O.Reg.153/04)								
CCME Total Hydrocarbons								
F1 (C6-C10)	<5	VC:RHS	5	mg/kg			01-DEC-08	
F1-BTEX	<5	VO.IXI10	5	mg/kg			01-DEC-08	
F2 (C10-C16)	<10		10	mg/kg			01-DEC-08	
F3 (C16-C34)	<50		50	mg/kg			01-DEC-08	
F4 (C34-C50)	<50		50	mg/kg			01-DEC-08	
Total Hydrocarbons (C6-C50)	<50		50	mg/kg			01-DEC-08	
Chromatogram to baseline at	YES		00	No Unit			01-DEC-08	
nC50				110 01111			0. 520 00	
Prep/Analysis Dates				No Unit			28-NOV-08	R762621
F2-F4 (O.Reg.153/04) Prep/Analysis Dates				No Unit			28-NOV-08	D760540
Surr: Octacosane	82		00 400					R762542
	02		60-120	%			28-NOV-08	R762542
Volatile Organics (153/04) Table 1								
1,1,1,2-Tetrachloroethane	<0.008		0.008	mg/kg			28-NOV-08	R762774
1,1,2,2-Tetrachloroethane	< 0.004		0.004	mg/kg	0.004	0.004	28-NOV-08	R762774
1,1,1-Trichloroethane	<0.008		0.008	mg/kg	0.009	0.009	28-NOV-08	R762774
1,1,2-Trichloroethane	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,1-Dichloroethane	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,1-Dichloroethylene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,2-Dichlorobenzene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,2-Dichloroethane	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,2-Dibromoethane	< 0.004		0.004	mg/kg	0.004	0.004	28-NOV-08	R762774
1,2-Dichloropropane	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,3-Dichlorobenzene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,4-Dichlorobenzene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
2-Hexanone	<0.2		0.2	mg/kg			28-NOV-08	R762774
Acetone	<0.5		0.5	mg/kg			28-NOV-08	R762774
Benzene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Bromodichloromethane	< 0.005		0.005	mg/kg			28-NOV-08	R762774
Bromoform	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Bromomethane	<0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Carbon Disulfide	<0.02		0.02	mg/kg			28-NOV-08	R762774
Carbon tetrachloride	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Chlorobenzene	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Chloroethane	<0.03		0.03	mg/kg			28-NOV-08	R762774
Chloroform	<0.006		0.006	mg/kg	0.006	0.006	28-NOV-08	R762774
Chloromethane	<0.03		0.03	mg/kg			28-NOV-08	R762774
cis-1,2-Dichloroethylene	<0.02		0.02	mg/kg			28-NOV-08	R762774
cis-1,3-Dichloropropene	<0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Dibromomethane	<0.01		0.01	mg/kg			28-NOV-08	R762774
Dibromochloromethane	<0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Dichlorodifluoromethane	<0.03		0.03	mg/kg			28-NOV-08	R762774
Dichloromethane	<0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Ethyl Benzene	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
MTBE	<0.2		0.2	mg/kg			28-NOV-08	R762774
m+p-Xylenes	<0.002		0.002	mg/kg			28-NOV-08	R762774
Methyl Ethyl Ketone	<0.2		0.2	mg/kg			28-NOV-08	R762774
** analytical results for this parameter exceed o		<u> </u>						

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
L712303-2 BH-8 (SS-4)								
Sampled By: LUKE T on 25-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		_	
VOC, F1-F4 (O.Reg.153/04)								
Volatile Organics (153/04) Table 1								
Methyl Isobutyl Ketone	<0.2		0.2	mg/kg			28-NOV-08	R762774
o-Xylene	< 0.002		0.002	mg/kg			28-NOV-08	R762774
Styrene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Tetrachloroethylene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Toluene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
trans-1,2-Dichloroethylene	< 0.002		0.002	mg/kg	0.003	0.003	28-NOV-08	R762774
trans-1,3-Dichloropropene	< 0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Trichloroethylene	< 0.004		0.004	mg/kg	0.004	0.004	28-NOV-08	R762774
Trichlorofluoromethane	< 0.03		0.03	mg/kg			28-NOV-08	R762774
Vinyl chloride	<0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Xylenes (Total)	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Surr: 1,2-Dichloroethane d4	96		25-175	%			28-NOV-08	R762774
Surr: Toluene-d8	87		25-175	%			28-NOV-08	R762774
Surr: 4-Bromofluorobenzene	101		25-175	%			28-NOV-08	R762774
Individual Analytes								
% Moisture	8.0		0.5	%			27-NOV-08	R762204
PCBs								
Aroclor 1242	< 0.05	DLA	0.05	mg/kg			29-NOV-08	R762567
Aroclor 1248	< 0.05	DLA	0.05	mg/kg			29-NOV-08	R762567
Aroclor 1254	< 0.05	DLA	0.05	mg/kg			29-NOV-08	R762567
Aroclor 1260	< 0.05	DLA	0.05	mg/kg			29-NOV-08	R762567
Total PCBs	< 0.05	DLA	0.05	mg/kg	0.3	0.3	29-NOV-08	R762567
Surr: d14-Terphenyl	86		63-153	%			29-NOV-08	R762567
рН	8.47		0.01	pH units			27-NOV-08	R762512
L712303-3 BH-13 (SS-3)								
Sampled By: LUKE T on 25-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		_	
F1-F4 (O.Reg.153/04)								
CCME Total Hydrocarbons								
F1 (C6-C10)	<5		5	mg/kg			28-NOV-08	
F2 (C10-C16)	<10		10	mg/kg			28-NOV-08	
F3 (C16-C34)	56		50	mg/kg			28-NOV-08	
F4 (C34-C50)	144		50	mg/kg			28-NOV-08	
F4G-SG (GHH-Silica)	600		100	mg/kg			28-NOV-08	
Total Hydrocarbons (C6-C50)	200		50	mg/kg			28-NOV-08	
Chromatogram to baseline at	NO			No Unit			28-NOV-08	
nC50				Nia I Init			20 NOV 00	D700004
Prep/Analysis Dates				No Unit			28-NOV-08	R762621
F2-F4 (O.Reg.153/04)								
Prep/Analysis Dates				No Unit			28-NOV-08	R762542
Surr: Octacosane	88		60-120	%			28-NOV-08	R762542
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R763631

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spe	cific Limite	Analyzad	Dotol
Sample Details/Parameters	Result	Qualifier	D.L.	Units	Chiena Spe	CINC LIMITS	Analyzed	Batch
_712303-3 BH-13 (SS-3)								
Sampled By: LUKE T on 25-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
-								
As, Sb and Se by ICP/MS	4			,	4.4	47	04 850 00	D70000
Arsenic (As)	1 <1		1	mg/kg	14 1.4	17	01-DEC-08	R76363
Selenium (Se)			1	mg/kg	1.4	1.9	01-DEC-08	R76363
Boron (B), Available	<0.1		0.1	ug/g			28-NOV-08	R76275
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	28-NOV-08	R76276
Mercury (Hg)	0.23		0.05	ug/g	** 0.16	0.23	27-NOV-08	R76279
Standard Metal Scan (ICP)								
Barium (Ba)	31		1	mg/kg	190	210	28-NOV-08	R76350
Beryllium (Be)	< 0.5		0.5	mg/kg	1.2	1.2	28-NOV-08	R76350
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	28-NOV-08	R76350
Chromium (Cr)	4		1	mg/kg	67	71	28-NOV-08	R76350
Cobalt (Co)	1		1	mg/kg	19	21	28-NOV-08	R76350
Copper (Cu)	7		1	mg/kg	56	85	28-NOV-08	R76350
Lead (Pb)	35		1	mg/kg	55	120	28-NOV-08	R76350
Molybdenum (Mo)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R76350
Nickel (Ni)	2		1	mg/kg	43	43	28-NOV-08	R76350
Silver (Ag)	<0.2		0.2	mg/kg	0.35	0.42	28-NOV-08	R76350
Thallium (TI)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R76350
Vanadium (V)	3		1	mg/kg	91	91	28-NOV-08	R76350
Zinc (Zn)	79		1	mg/kg	150	160	28-NOV-08	R76350
Individual Analytes	75		'	ilig/kg	130	100	20-110-00	170330
•	0.5							
% Moisture	3.5		0.5	%			27-NOV-08	R76220
Prep/Analysis Dates				No Unit			28-NOV-08	R76269
рН	8.39		0.01	pH units			27-NOV-08	R76251
L712303-4 BH-6 (SS-5)								
Sampled By: LUKE T on 25-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R76363
Arsenic (As)	1		1	mg/kg	14	17	01-DEC-08	R76363
Selenium (Se)	<1		1	mg/kg	1.4	1.9	01-DEC-08	R76363
					1	1.0		
Boron (B), Available	<0.1		0.1	ug/g			28-NOV-08	R76275
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	28-NOV-08	R76276
Mercury (Hg)	< 0.05		0.05	ug/g	0.16	0.23	27-NOV-08	R76279
Standard Metal Scan (ICP)								
Barium (Ba)	11		1	mg/kg	190	210	28-NOV-08	R76350
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	28-NOV-08	R76350
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	28-NOV-08	R76350
Chromium (Cr)	4		1	mg/kg	67	71	28-NOV-08	R76350
Cobalt (Co)	2		1	mg/kg	19	21	28-NOV-08	R76350
Copper (Cu)	4		1	mg/kg	56	85	28-NOV-08	R76350
Lead (Pb)	199		1	mg/kg	** 55	** 120	28-NOV-08	R76350
Molybdenum (Mo)	<1	1 1	1	mg/kg	2.5	2.5	28-NOV-08	R76350

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
L712303-4 BH-6 (SS-5)								
Sampled By: LUKE T on 25-NOV-08								
' '					AGRICULTURAL	ALL OTHER		
Matrix: SOIL					OR OTHER		_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
Standard Metal Scan (ICP)								
	2				43	40	00 NOV 00	D700507
Nickel (Ni)	3 <0.2		1	mg/kg		43	28-NOV-08	R763507
Silver (Ag)	<0.2 <1		0.2	mg/kg	0.35 2.5	0.42 2.5	28-NOV-08	R763507
Thallium (TI) Vanadium (V)	4		1 1	mg/kg	91	2.5 91	28-NOV-08 28-NOV-08	R763507 R763507
Zinc (Zn)	71		1	mg/kg	150	160	28-NOV-08	R763507
Individual Analytes	, ,		1	mg/kg	150	100	20-110 7-00	K/0330/
-	7.0							
% Moisture	7.0		0.5	%			27-NOV-08	R762204
рН	8.15		0.01	pH units			27-NOV-08	R762512
L712303-5 BH-7 (SS-2)								
Sampled By: LUKE T on 25-NOV-08								
Matrix: SOIL					AGRICULTURAL OR OTHER	ALL OTHER	_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		4	m a /l. a	1	1	01-DEC-08	R763631
Aritimony (Sb) Arsenic (As)	2		1 1	mg/kg	14	17	01-DEC-08	R763631
` '	<1		1	mg/kg	1.4	1.9	01-DEC-08	
Selenium (Se)				mg/kg	1.4	1.9		R763631
Boron (B), Available	0.1		0.1	ug/g			28-NOV-08	R762751
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	28-NOV-08	R762763
Mercury (Hg)	<0.05		0.05	ug/g	0.16	0.23	27-NOV-08	R762794
Standard Metal Scan (ICP)								
Barium (Ba)	12		1	mg/kg	190	210	28-NOV-08	R763507
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	28-NOV-08	R763507
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	28-NOV-08	R763507
Chromium (Cr)	6		1	mg/kg	67	71	28-NOV-08	R763507
Cobalt (Co)	2		1	mg/kg	19	21	28-NOV-08	R763507
Copper (Cu)	8		1	mg/kg	56	85	28-NOV-08	R763507
Lead (Pb)	18		1	mg/kg	55	120	28-NOV-08	R763507
Molybdenum (Mo)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R763507
Nickel (Ni)	4		1	mg/kg	43	43	28-NOV-08	R763507
Silver (Ag)	<0.2		0.2	mg/kg	0.35	0.42	28-NOV-08	R763507
Thallium (TI)	<1 -		1	mg/kg	2.5	2.5	28-NOV-08	R763507
Vanadium (V)	5 66		1	mg/kg	91	91 160	28-NOV-08	R763507
Zinc (Zn)	OO		1	mg/kg	150	160	28-NOV-08	R763507
Individual Analytes	4.4		0.5	6,			07.101/ 65	D70000 :
% Moisture	4.1		0.5	%			27-NOV-08	R762204
рН	8.31		0.01	pH units			27-NOV-08	R762512
L712303-6 BH-5 (SS-2)								
Sampled By: LUKE T on 25-NOV-08						ALL 07:155		
Matrix: SOIL					AGRICULTURAL OR OTHER	ALL OTHER		
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
								Baton
.712303-6 BH-5 (SS-2)								
Sampled By: LUKE T on 25-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		-	
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R76363
Arsenic (As)	2		1	mg/kg	14	17	01-DEC-08	R76363
Selenium (Se)	_ <1		1	mg/kg	1.4	1.9	01-DEC-08	R76363
Boron (B), Available	<0.1		0.1	ug/g			28-NOV-08	R76275
, ,	<2				0.5	0.5		
Chromium, Hexavalent			2	mg/kg	2.5	2.5	28-NOV-08	R76276
Mercury (Hg)	<0.05		0.05	ug/g	0.16	0.23	27-NOV-08	R76279
Standard Metal Scan (ICP)								
Barium (Ba)	12		1	mg/kg	190	210	28-NOV-08	R76350
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	28-NOV-08	R76350
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	28-NOV-08	R76350
Chromium (Cr)	5		1	mg/kg	67	71	28-NOV-08	R76350
Cobalt (Co)	2		1	mg/kg	19	21	28-NOV-08	R76350
Copper (Cu)	5		1	mg/kg	56	85	28-NOV-08	R76350
Lead (Pb)	15		1	mg/kg	55	120	28-NOV-08	R76350
Molybdenum (Mo)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R76350
Nickel (Ni)	4		1	mg/kg	43	43	28-NOV-08	R76350
Silver (Ag)	<0.2		0.2	mg/kg	0.35	0.42	28-NOV-08	R76350
Thallium (TI)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R76350
Vanadium (V)	6		1	mg/kg	91	91	28-NOV-08	R76350
Zinc (Zn)	91		1	mg/kg	150	160	28-NOV-08	R76350
ndividual Analytes								
% Moisture	6.2		0.5	%			27-NOV-08	R76220
рН	8.16		0.01	pH units			27-NOV-08	R76251
712303-7 BH-15 (SS-1)								
ampled By: LUKE T on 26-NOV-08								
atrix: SOIL					AGRICULTURAL	ALL OTHER		
atrix. GGIE					OR OTHER _		_	
1-F4 (O.Reg.153/04)								
CCME Total Hydrocarbons								
F1 (C6-C10)	<5		5	mg/kg			28-NOV-08	
F2 (C10-C16)	<10		10	mg/kg			28-NOV-08	
F3 (C16-C34)	107		50	mg/kg			28-NOV-08	
F4 (C34-C50)	227		50	mg/kg			28-NOV-08	
F4G-SG (GHH-Silica)	900		100	mg/kg			28-NOV-08	
Total Hydrocarbons (C6-C50)	334		50	mg/kg			28-NOV-08	
Chromatogram to baseline at nC50	NO			No Unit			28-NOV-08	
Prep/Analysis Dates				No Unit			28-NOV-08	R76262
F2-F4 (O.Reg.153/04)								
Prep/Analysis Dates				No Unit			28-NOV-08	R76254
Surr: Octacosane	89		60-120	NO Unit %			28-NOV-08	R76254
egulation 153 Metals, Hg, Cr6+, Avail B			00-120	70			201101-00	111020
-								
As, Sb and Se by ICP/MS	.4				_	4	04 DEC 05	D7000
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R76363

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Specific Limits		Analyzed	Batch
L712303-7 BH-15 (SS-1)								
Sampled By: LUKE T on 26-NOV-08								
Matrix: SOIL					AGRICULTURAL OR OTHER	ALL OTHER		
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS Arsenic (As)	4		4		14	17	04 DEC 00	DZCCCA
Selenium (Se)	4 <1		1 1	mg/kg	1.4	1.9	01-DEC-08 01-DEC-08	R763631 R763631
` '	0.2			mg/kg	1.4	1.9		
Boron (B), Available			0.1	ug/g	0.5	0.5	28-NOV-08	R762751
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	28-NOV-08	R762763
Mercury (Hg)	0.09		0.05	ug/g	0.16	0.23	27-NOV-08	R762794
Standard Metal Scan (ICP)								
Barium (Ba)	34		1	mg/kg	190	210	28-NOV-08	R763507
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	28-NOV-08	R763507
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	28-NOV-08	R763507
Chromium (Cr)	9		1	mg/kg	67	71	28-NOV-08	R763507
Cobalt (Co)	3		1	mg/kg	19	21	28-NOV-08	R763507
Copper (Cu)	22		1	mg/kg	56	85	28-NOV-08	R763507
Lead (Pb)	52		1	mg/kg	55	120	28-NOV-08	R763507
Molybdenum (Mo)	<1 -		1	mg/kg	2.5	2.5	28-NOV-08	R763507
Nickel (Ni)	7		1	mg/kg	43	43	28-NOV-08	R763507
Silver (Ag)	<0.2		0.2	mg/kg	0.35	0.42	28-NOV-08	R763507
Thallium (TI) Vanadium (V)	<1 13		1	mg/kg	2.5 91	2.5 91	28-NOV-08 28-NOV-08	R763507
Zinc (Zn)	124		1 1	mg/kg	150	160	28-NOV-08	R763507
Individual Analytes	124		ı	mg/kg	130	100	20-110-00	K703307
•	9.8		0.5	0/			07 NOV 00	D70000
% Moisture	9.0		0.5	%			27-NOV-08	R762204
Prep/Analysis Dates				No Unit			28-NOV-08	R762690
рН	8.03		0.01	pH units			27-NOV-08	R762512
L712303-8 BH-9 (SS-3)								
Sampled By: LUKE T on 26-NOV-08								
Matrix: SOIL					AGRICULTURAL OR OTHER	ALL OTHER	_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R76363
Arsenic (As)	2		1	mg/kg	14	17	01-DEC-08	R76363
Selenium (Se)	<1		1	mg/kg	1.4	1.9	01-DEC-08	R76363
Boron (B), Available	<0.1		0.1	ug/g			28-NOV-08	R76275
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	28-NOV-08	R762763
Mercury (Hg)	< 0.05		0.05	ug/g	0.16	0.23	27-NOV-08	R762794
Standard Metal Scan (ICP)				3.3				
Barium (Ba)	17		1	mg/kg	190	210	28-NOV-08	R763507
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	28-NOV-08	R763507
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	28-NOV-08	R763507
Chromium (Cr)	7		1	mg/kg	67	71	28-NOV-08	R763507
Cobalt (Co)	3		1	mg/kg	19	21	28-NOV-08	R763507
Copper (Cu)	8		1	mg/kg	56	85	28-NOV-08	R763507
Lead (Pb)	13		1	mg/kg	55	120	28-NOV-08	R763507
Molybdenum (Mo)	<1	1	1	mg/kg	2.5	2.5	28-NOV-08	R763507

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spe	cific Limits	Analyzed	Batch
L712303-8 BH-9 (SS-3)								
Sampled By: LUKE T on 26-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
Standard Metal Scan (ICP) Nickel (Ni)	5		4		43	43	20 NOV 00	R763507
Silver (Ag)	<0.2		1 0.2	mg/kg mg/kg	0.35	0.42	28-NOV-08 28-NOV-08	R763507
Thallium (TI)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R763507
Vanadium (V)	7		1	mg/kg	91	91	28-NOV-08	R763507
Zinc (Zn)	172		1	mg/kg	** 150	** 160	28-NOV-08	R763507
Individual Analytes								
% Moisture	8.1		0.5	%			27-NOV-08	R762204
рН	8.02		0.01	pH units			27-NOV-08	R762512
•								
L712303-9 BH-16 (SS-2) Sampled By: LUKE T on 26-NOV-08								
' '					AGRICULTURAL	ALL OTHER		
Matrix: SOIL					OR OTHER			
F1-F4 (O.Reg.153/04)								
CCME Total Hydrocarbons								
F1 (C6-C10)	<5		5	mg/kg			28-NOV-08	
F2 (C10-C16)	<10		10	mg/kg			28-NOV-08	
F3 (C16-C34)	<50		50	mg/kg			28-NOV-08	
F4 (C34-C50)	<50		50	mg/kg			28-NOV-08	
Total Hydrocarbons (C6-C50)	<50 YES		50	mg/kg			28-NOV-08	
Chromatogram to baseline at nC50	150			No Unit			28-NOV-08	
Prep/Analysis Dates				No Unit			28-NOV-08	R762621
F2-F4 (O.Reg.153/04)				110 01			20 110 1 00	0202.
Prep/Analysis Dates				No Unit			28-NOV-08	R762542
Surr: Octacosane	88		60-120	%			28-NOV-08	R762542
Regulation 153 Metals, Hg, Cr6+, Avail B			00 120	,,			201101 00	117 020 12
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R763631
Arsenic (As)	3		1	mg/kg	14	17	01-DEC-08	R763631
Selenium (Se)	<1		1	mg/kg	1.4	1.9	01-DEC-08	R763631
Boron (B), Available	0.7		0.1	ug/g			28-NOV-08	R762751
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	28-NOV-08	R762763
Mercury (Hg)	<0.05		0.05	ug/g	0.16	0.23	27-NOV-08	R762794
• , •,	\0.03		0.03	ug/g	0.10	0.23	27-110-00	1702194
Standard Metal Scan (ICP)	25				400	240	00 NOV 00	D700507
Barium (Ba) Beryllium (Be)	35 <0.5		1	mg/kg	190 1.2	210 1.2	28-NOV-08 28-NOV-08	R763507
Cadmium (Cd)	<0.5 <0.5		0.5 0.5	mg/kg mg/kg	1.0	1.2	28-NOV-08 28-NOV-08	R763507 R763507
Chromium (Cr)	12		1	mg/kg	67	71	28-NOV-08	R763507
Cobalt (Co)	5		1	mg/kg	19	21	28-NOV-08	R763507
Copper (Cu)	11		1	mg/kg	56	85	28-NOV-08	R763507
Lead (Pb)	16		1	mg/kg	55	120	28-NOV-08	R763507
Molybdenum (Mo)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R763507
Nickel (Ni)	9		1	mg/kg	43	43	28-NOV-08	R763507
	< 0.2	1	0.2	mg/kg	0.35	0.42	28-NOV-08	R763507

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
Oampie Details/1 arameters	rtoodit	Qualifier		l OTING			Analyzed	Daton
L712303-9 BH-16 (SS-2)								
Sampled By: LUKE T on 26-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		-	
Regulation 153 Metals, Hg, Cr6+, Avail B								
Standard Metal Scan (ICP)								
Thallium (TI)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R763507
Vanadium (V)	17		1	mg/kg	91	91	28-NOV-08	R763507
Zinc (Zn)	103		1	mg/kg	150	160	28-NOV-08	R763507
Individual Analytes								
% Moisture	15.3		0.5	%			27-NOV-08	R762204
PCBs								
Aroclor 1242	<0.01		0.01	mg/kg			29-NOV-08	R762567
Aroclor 1248	<0.01		0.01	mg/kg			29-NOV-08	R762567
Aroclor 1254	<0.01		0.01	mg/kg			29-NOV-08	R76256
Aroclor 1260	<0.01		0.01	mg/kg			29-NOV-08	R76256
Total PCBs	<0.01		0.01	mg/kg	0.3	0.3	29-NOV-08	R76256
Surr: d14-Terphenyl	119		63-153	%			29-NOV-08	R76256
рН	7.73		0.01	pH units			27-NOV-08	R762512
_712303-10 BH-4 (SS-2)								
Sampled By: LUKE T on 26-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
Width.					OR OTHER		_	
F4 F4 (O Box 453/04)								
F1-F4 (O.Reg.153/04)								
CCME Total Hydrocarbons	_		_					
F1 (C6-C10)	<5 -10		5	mg/kg			28-NOV-08	
F2 (C10-C16)	<10		10	mg/kg			28-NOV-08	
F3 (C16-C34) F4 (C34-C50)	<50 <50		50 50	mg/kg			28-NOV-08 28-NOV-08	
Total Hydrocarbons (C6-C50)	<50		50 50	mg/kg mg/kg			28-NOV-08	
Chromatogram to baseline at	YES		30	No Unit			28-NOV-08	
nC50	. 20			140 Offic			201101-00	
Prep/Analysis Dates				No Unit			28-NOV-08	R76262
F2-F4 (O.Reg.153/04)								
Prep/Analysis Dates				No Unit			28-NOV-08	R762542
Surr: Octacosane	86		60-120	%			28-NOV-08	R76254
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R76363
Arsenic (As)	2		1	mg/kg	14	17	01-DEC-08	R76363
Selenium (Se)	<1		1	mg/kg	1.4	1.9	01-DEC-08	R76363
Boron (B), Available	<0.1		0.1	ug/g			28-NOV-08	R76275
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	28-NOV-08	R76276
Mercury (Hg)	< 0.05		0.05	ug/g	0.16	0.23	27-NOV-08	R76279
	~0.00		0.05	ug/g	0.10	0.23	21-1101-00	N/02/9
Standard Metal Scan (ICP)	07				100	040	00 11011 25	D=00==
Barium (Ba)	37 <0.5		1	mg/kg	190	210	28-NOV-08	R76350
Beryllium (Be)			0.5	mg/kg	1.2	1.2	28-NOV-08	R76350
Cadmium (Cd) Chromium (Cr)	<0.5 12		0.5 1	mg/kg	1.0 67	1.0 71	28-NOV-08 28-NOV-08	R763507
Cobalt (Co)	6		1	mg/kg	19	21	28-NOV-08 28-NOV-08	R763507
Obbalt (Ob)	3		'	mg/kg	13	۷.	20-140 V-00	11/00001

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Specific Limits		Analyzed	Batch
L712303-10 BH-4 (SS-2)								
Sampled By: LUKE T on 26-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
Wallix. SOIL					OR OTHER		_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
Standard Metal Scan (ICP)								
Copper (Cu)	11		1	mg/kg	56	85	28-NOV-08	R763507
Lead (Pb)	12		1	mg/kg	55	120	28-NOV-08	R763507
Molybdenum (Mo)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R763507
Nickel (Ni)	11		1	mg/kg	43	43	28-NOV-08	R76350
Silver (Ag)	<0.2		0.2	mg/kg	0.35	0.42	28-NOV-08	R76350
Thallium (TI)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R76350
Vanadium (V)	14		1	mg/kg	91	91	28-NOV-08	R76350
Zinc (Zn)	57		1	mg/kg	150	160	28-NOV-08	R763507
Individual Analytes								
% Moisture	12.2		0.5	%			27-NOV-08	R76220
PCBs								
Aroclor 1242	<0.01		0.01	mg/kg			29-NOV-08	R76256
Aroclor 1248	<0.01		0.01	mg/kg			29-NOV-08	R76256
Aroclor 1254	<0.01		0.01	mg/kg			29-NOV-08	R76256
Aroclor 1260	<0.01		0.01	mg/kg			29-NOV-08	R76256
Total PCBs	<0.01		0.01	mg/kg	0.3	0.3	29-NOV-08	R76256
Surr: d14-Terphenyl	112		63-153	%			29-NOV-08	R76256
рН	8.19		0.01	pH units			27-NOV-08	R76251
-712303-11 BH-X-NOV25								
Sampled By: LUKE T on 26-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
Matrix. SOIL					OR OTHER		_	
Pagulation 152 Matala Ha Cre Avail B								
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS			_		_			
Antimony (Sb)	<1		1	mg/kg	1	1	01-DEC-08	R76363
Arsenic (As)	1		1	mg/kg	14	17	01-DEC-08	R76363
Selenium (Se)	<1		1	mg/kg	1.4	1.9	01-DEC-08	R76363
Boron (B), Available	<0.1		0.1	ug/g			28-NOV-08	R76275
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	28-NOV-08	R76276
Mercury (Hg)	< 0.05		0.05	ug/g	0.16	0.23	27-NOV-08	R76279
Standard Metal Scan (ICP)								
Barium (Ba)	11		1	mg/kg	190	210	28-NOV-08	R76350
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	28-NOV-08	R76350
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	28-NOV-08	R76350
Chromium (Cr)	6		1	mg/kg	67	71	28-NOV-08	R76350
Cobalt (Co)	2		1	mg/kg	19	21	28-NOV-08	R76350
Copper (Cu)	6		1	mg/kg	56	85	28-NOV-08	R76350
Lead (Pb)	14		1	mg/kg	55	120	28-NOV-08	R76350
Molybdenum (Mo)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R76350
Nickel (Ni)	3		1	mg/kg	43	43	28-NOV-08	R76350
Silver (Ag)	<0.2		0.2	mg/kg	0.35	0.42	28-NOV-08	R76350
Thallium (TI)	<1		1	mg/kg	2.5	2.5	28-NOV-08	R76350
	4		1	mg/kg	91	91	28-NOV-08	R76350
Vanadium (V)	7			ilig/kg] 31	01	20-INO V-00	117 0000

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
L712303-11 BH-X-NOV25								
Sampled By: LUKE T on 26-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		-	
VOC, F1-F4 (O.Reg.153/04)								
CCME Total Hydrocarbons								
F1 (C6-C10)	<5		5	ma/ka			01-DEC-08	
F1-BTEX	<5		5	mg/kg mg/kg			01-DEC-08	
F2 (C10-C16)	<10		10	mg/kg			01-DEC-08	
F3 (C16-C34)	<50		50	mg/kg			01-DEC-08	
F4 (C34-C50)	<50		50	mg/kg			01-DEC-08	
Total Hydrocarbons (C6-C50)	<50		50	mg/kg			01-DEC-08	
Chromatogram to baseline at	YES			No Unit			01-DEC-08	
nC50								
Prep/Analysis Dates				No Unit			28-NOV-08	R762621
F2-F4 (O.Reg.153/04)								
Prep/Analysis Dates				No Unit			28-NOV-08	R762542
Surr: Octacosane	83		60-120	%			28-NOV-08	R762542
Volatile Organics (153/04) Table 1	-							
	<0.008		0.000	/1			20 NOV 00	D700774
1,1,1,2-Tetrachloroethane 1,1,2,2-Tetrachloroethane	<0.008		0.008	mg/kg	0.004	0.004	28-NOV-08 28-NOV-08	R762774 R762774
1,1,2,2-1 etrachioroethane	<0.004		0.004 0.008	mg/kg mg/kg	0.004	0.004	28-NOV-08	R762774
1,1,2-Trichloroethane	<0.002		0.008	mg/kg	0.009	0.009	28-NOV-08	R762774
1,1-Dichloroethane	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,1-Dichloroethylene	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,2-Dichlorobenzene	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,2-Dichloroethane	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,2-Dibromoethane	< 0.004		0.004	mg/kg	0.004	0.004	28-NOV-08	R762774
1,2-Dichloropropane	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,3-Dichlorobenzene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
1,4-Dichlorobenzene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
2-Hexanone	<0.2		0.2	mg/kg			28-NOV-08	R762774
Acetone	<0.5		0.5	mg/kg			28-NOV-08	R762774
Benzene	< 0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Bromodichloromethane	< 0.005		0.005	mg/kg			28-NOV-08	R762774
Bromoform	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Bromomethane	<0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Carbon Disulfide	<0.02		0.02	mg/kg			28-NOV-08	R762774
Carbon tetrachloride	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Chlorobenzene	<0.002		0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Chloroethane	< 0.03		0.03	mg/kg			28-NOV-08	R762774
Chloroform	<0.006		0.006	mg/kg	0.006	0.006	28-NOV-08	R762774
Chloromethane	<0.03		0.03	mg/kg			28-NOV-08	R762774
cis-1,2-Dichloroethylene	<0.02		0.02	mg/kg	0.000	0.000	28-NOV-08	R762774
cis-1,3-Dichloropropene	< 0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Dibromomethane	<0.01 <0.003		0.01	mg/kg	0.003	0.003	28-NOV-08	R762774
Dibromochloromethane Dichlorodifluoromethane	<0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
Dichlorodifluoromethane Dichloromethane	<0.03		0.03 0.003	mg/kg	0.003	0.003	28-NOV-08 28-NOV-08	R762774
Ethyl Benzene	<0.003		0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
MTBE	<0.002		0.002	mg/kg mg/kg	0.002	0.002	28-NOV-08	R762774 R762774
m+p-Xylenes	<0.02		0.2	mg/kg			28-NOV-08	R762774
Methyl Ethyl Ketone	<0.2		0.002	mg/kg			28-NOV-08	R762774
monty: Entyl Rotollo	-5.2		0.2	mg/kg			201100	11102114

^{**} analytical results for this parameter exceed criteria limits listed on this report





ALS LABORATORY GROUP CRITERIA REPORT

5-698-17-02

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					01-DEC	08 15:18:42
Sample Details/Parameters Result Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
L712303-11 BH-X-NOV25						
Sampled By: LUKE T on 26-NOV-08						
Matrix: SOIL			AGRICULTURAL	ALL OTHER		
Matrix. SOIL			OR OTHER		_	
VOC, F1-F4 (O.Reg.153/04)						
Volatile Organics (153/04) Table 1						
Methyl Isobutyl Ketone <0.2	0.2	mg/kg			28-NOV-08	R762774
	0.002	mg/kg			28-NOV-08	R762774
	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Tetrachloroethylene <0.002	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
Toluene <0.002	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
trans-1,2-Dichloroethylene <0.002	0.002	mg/kg	0.003	0.003	28-NOV-08	R762774
	0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
	0.004	mg/kg	0.004	0.004	28-NOV-08	R762774
	0.03	mg/kg			28-NOV-08	R762774
	0.003	mg/kg	0.003	0.003	28-NOV-08	R762774
	0.002	mg/kg	0.002	0.002	28-NOV-08	R762774
	25-175	%			28-NOV-08	R762774
	25-175	%			28-NOV-08	R762774
	25-175	%			28-NOV-08	R762774
Individual Analytes						
% Moisture 7.6	0.5	%			27-NOV-08	R762204
PCBs						
Aroclor 1242 <0.01	0.01	mg/kg			29-NOV-08	R762567
Aroclor 1248 <0.01	0.01	mg/kg			29-NOV-08	R762567
Aroclor 1254 <0.01	0.01	mg/kg			29-NOV-08	R762567
Aroclor 1260 <0.01	0.01	mg/kg			29-NOV-08	R762567
Total PCBs <0.01	0.01	mg/kg	0.3	0.3	29-NOV-08	R762567
Surr: d14-Terphenyl 110	63-153	%			29-NOV-08	R762567
pH 8.27	0.01	pH units			27-NOV-08	R762512

^{**} analytical results for this parameter exceed criteria limits listed on this report

Reference Information

5-698-17-02

CR-CR6-WT

ETL-TVH,TEH-CCME-WT Soil

L712303 CONTD.... Page 16 of 17 01-DEC-08 15:18:42

Sample Parameter Qualifier key listed:

Qualifier	Descrip	tion										
DLA	Detection	Detection Limit Adjusted For required dilution										
VC:RHS	Volatile Analysis Compromised; Samples Received With Headspace											
Methods Liste	nd (if ann	licable):										
Wiethous Liste	tu (II app	iicabiej.										
ALS Test Code		Matrix	Test Description	Preparation Method Reference(Based On)	Analytical Method Reference(Based On)							
AS,SB,SE-3050-	MS-WT	Soil	As, Sb and Se by ICP/MS	3	SW846 3050B/6020A							
B-AVAIL-WT		Soil	Boron (B), Available		HW EXTR, EPA 6010B							

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.

Soil

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:

Hexavalent Chromium in Soil

CCME Total Hydrocarbons

- 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.

,		F	
F1-WT	Soil	F1 (O.Reg.153/04)	MOE DECPH-E3398/CCME Tier 1
F2-F4-WT	Soil	F2-F4 (O.Reg.153/04)	MOE DECPH-E3398/CCME Tier 1
F4G-ADD-WT	Soil	F4G-SG (O.Reg.153/04)	MOE DECPH-E3398/CCME Tier 1
HG-WT	Soil	Mercury by CVAA	SW846 7470A
MET-R153-WT	Soil	Standard Metal Scan (ICP)	EPA 3050
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried
PAH-CCME-WT	Soil	CCME PAHs	SW846 8270
PCB-WT	Soil	PCBs	EPA 8082
PH-R153-WT	Soil	pH	MOEE E3137A
VOC-CCME-TABLE1-WT	Soil	Volatile Organics (153/04) Table	MOE-E3254

Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.

EPA 7196

CCME CWS-PHC Dec-2000 - Pub#

Chain of Custody numbers:

69263

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 LABORATORY GROUP - WATERLOO, ONTARIO, CAN		

Reference Information

5-698-17-02

GLOSSARY OF REPORT TERMS

Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds. The reported surrogate recovery value provides a measure of method efficiency. The Laboratory control limits are determined under column heading D.L.

mg/kg (units) - unit of concentration based on mass, parts per million mg/L (units) - unit of concentration based on volume, parts per million

< - Less than

D.L. - Detection 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. UNLESS OTHERWISE STATED, SAMPLES ARE NOT CORRECTED FOR CLIENT FIELD BLANKS.

Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

ALS provides criteria information as a service to you, our customer. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. ALS recommends review of the most current version of the regulation, and assumes no responsibility for the accuracy of the criteria levels indicated.





ALS Laboratory Group Quality Control Report

Workorder: L712303 Report Date: 01-DEC-08 Page 1 of 14

Client: XCG CONSULTANTS LTD.

820 TRILLIUM DRIVE

KITCHENER ON N2R 1K4

Contact: THOMAS KOLODZIEJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
AS,SB,SE-3050-MS-WT Batch R763631	Soil							
WG879232-2 CVS Antimony (Sb)			112		%		63-138	01-DEC-08
Arsenic (As)			108		%		63-138	01-DEC-08
Selenium (Se)			103		%		63-138	01-DEC-08
WG878174-3 DUP Antimony (Sb)		L712303-8 <1	<1	RPD-NA	mg/kg	N/A	26	01-DEC-08
Arsenic (As)		2	<1	RPD-NA	mg/kg	N/A	26	01-DEC-08
Selenium (Se)		<1	<1	RPD-NA	mg/kg	N/A	26	01-DEC-08
WG878174-2 LCS Arsenic (As)			102		%		63-138	01-DEC-08
Selenium (Se)			94		%		63-138	01-DEC-08
WG878174-1 MB Antimony (Sb)			<1		mg/kg		1	01-DEC-08
Arsenic (As)			<1		mg/kg		1	01-DEC-08
Selenium (Se)			<1		mg/kg		1	01-DEC-08
B-AVAIL-WT	Soil							
Batch R762751								
WG878190-3 DUP Boron (B), Available		L712274-1 <0.1	<0.1	RPD-NA	ug/g	N/A	26	28-NOV-08
WG878190-2 LCS Boron (B), Available			100		%		60-140	28-NOV-08
WG878190-1 MB Boron (B), Available			<0.1		ug/g		0.1	28-NOV-08
CR-CR6-WT	Soil							
Batch R762763 WG878449-1 CVS								
Chromium, Hexavalent			94		%		70-130	28-NOV-08
WG878449-3 DUP Chromium, Hexavalent		L712303-11 <2	<2	RPD-NA	mg/kg	N/A	20	28-NOV-08
WG878449-4 DUP Chromium, Hexavalent		L712531-3 <2	<2	RPD-NA	mg/kg	N/A	20	28-NOV-08
WG878449-2 MB Chromium, Hexavalent			<2		mg/kg		2	28-NOV-08
F1-WT	Soil							2 2 . 🗸

Workorder: L712303

Report Date: 01-DEC-08

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-WT	Soil							
WG877488-1	62621 CVS No BTEX Correction)		93		%		59-131	28-NOV-08
WG877524-3 TVH: (C6-C10 /	DUP No BTEX Correction)	WG877524-2 <5	<5	RPD-NA	mg/kg	N/A	65	28-NOV-08
WG877524-1 TVH: (C6-C10 /	MB No BTEX Correction)		<5		mg/kg		5	28-NOV-08
F2-F4-WT	Soil							
	62542							
WG878143-1 F2 (C10-C16)	cvs		102		%		80-120	28-NOV-08
F3 (C16-C34)			106		%		80-120	28-NOV-08
F4 (C34-C50)			108		%		70-130	28-NOV-08
WG878143-2	cvs							
F2 (C10-C16)			104		%		80-120	28-NOV-08
F3 (C16-C34)			105		%		80-120	28-NOV-08
F4 (C34-C50)			107		%		70-130	28-NOV-08
WG878143-3 F2 (C10-C16)	cvs		102		%		80-120	28-NOV-08
F3 (C16-C34)			105		%		80-120	28-NOV-08
F4 (C34-C50)			108		%		70-130	28-NOV-08
WG877572-4 F2 (C10-C16)	DUP	L712303-3 <10	<10	RPD-NA	mg/kg	N/A	65	20 NOV 00
F3 (C16-C34)		56	60	J	mg/kg			28-NOV-08
F4 (C34-C50)		144	144	J	mg/kg	4 1	20 20	28-NOV-08 28-NOV-08
WG877572-2	LCS	177	177	J	mg/kg	ı	20	20-INOV-06
F2 (C10-C16)			94		%		54-120	28-NOV-08
F3 (C16-C34)			97		%		60-106	28-NOV-08
F4 (C34-C50)			88		%		52-122	28-NOV-08
WG877572-3 F2 (C10-C16)	LCSD	WG877572-2 94	101		%	7.9	45	28-NOV-08
F3 (C16-C34)		97	100		%	3.8	45	28-NOV-08
F4 (C34-C50)		88	91		%	3.2	45	28-NOV-08
WG877572-1	MB						-	
F2 (C10-C16)			<10		mg/kg		10	28-NOV-08
F3 (C16-C34)			<50		mg/kg		50	28-NOV-08
F4 (C34-C50)			<50		mg/kg		50	28-NOV-08

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Workorder: L712303

Report Date: 01-DEC-08

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-WT	Soil							
Batch R762794								
WG877665-3 DUP Mercury (Hg)		L712303-1 0.09	0.11	J	ug/g	0.02	0.2	27-NOV-08
WG877665-2 LCS Mercury (Hg)			101		%		70-130	27-NOV-08
WG877665-1 MB Mercury (Hg)			<0.05		ug/g		0.05	27-NOV-08
MET-R153-WT	Soil							
Batch R763507								
WG878335-2 CVS Barium (Ba)			99		%		80-120	28-NOV-08
Beryllium (Be)			87		%		80-120	28-NOV-08
Cadmium (Cd)			88		%		80-120	28-NOV-08
Chromium (Cr)			95		%		80-120	28-NOV-08
Cobalt (Co)			94		%		80-120	28-NOV-08
Copper (Cu)			96		%		80-120	28-NOV-08
Molybdenum (Mo)			81		%		80-120	28-NOV-08
Nickel (Ni)			97		%		80-120	28-NOV-08
Silver (Ag)			80		%		80-120	28-NOV-08
Thallium (TI)			95		%		80-120	28-NOV-08
Vanadium (V)			88		%		80-120	28-NOV-08
Zinc (Zn)			88		%		80-120	28-NOV-08
Lead (Pb)			84		%		80-120	28-NOV-08
WG878174-3 DUP	1	L712303-8						
Barium (Ba)		17	15		mg/kg	13	20	28-NOV-08
Beryllium (Be)		<0.5	<0.5	RPD-NA	mg/kg	N/A	20	28-NOV-08
Cadmium (Cd)		<0.5	<0.5	RPD-NA	mg/kg	N/A	20	28-NOV-08
Chromium (Cr)		7	6	J	mg/kg	1	4	28-NOV-08
Cobalt (Co)		3	2	J	mg/kg	0	4	28-NOV-08
Copper (Cu)		8	7	J	mg/kg	1	4	28-NOV-08
Lead (Pb)		13	11		mg/kg 	17	120	28-NOV-08
Molybdenum (Mo)		<1	<1	RPD-NA	mg/kg	N/A	20	28-NOV-08
Nickel (Ni)		5	4	J	mg/kg	1	4	28-NOV-08
Silver (Ag)		<0.2	<0.2	RPD-NA	mg/kg	N/A	20	28-NOV-08
Thallium (TI)		<1	<1	RPD-NA	mg/kg	N/A	20	28-NOV-08
Vanadium (V)		7	6					

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Workorder: L712303

Report Date: 01-DEC-08

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-R153-WT	Soil							
Batch R763507								
WG878174-3 DUP		L712303-8	0					
Vanadium (V)		7	6	J	mg/kg	1	4	28-NOV-08
Zinc (Zn)		172	155		mg/kg	11	20	28-NOV-08
WG878174-2 LCS Barium (Ba)			96		%		80-120	28-NOV-08
Beryllium (Be)			85		%		80-120	28-NOV-08
Cadmium (Cd)			89		%		80-120	28-NOV-08
Chromium (Cr)			95		%		80-120	28-NOV-08
Cobalt (Co)			94		%		80-120	28-NOV-08
Copper (Cu)			94		%		80-120	28-NOV-08
Lead (Pb)			90		%		80-120	28-NOV-08
Nickel (Ni)			93		%		80-120	28-NOV-08
Thallium (TI)			87		%		80-120	28-NOV-08
Vanadium (V)			93		%		80-120	28-NOV-08
Zinc (Zn)			81		%		80-120	28-NOV-08
WG878174-1 MB								
Barium (Ba)			<1		mg/kg		1	28-NOV-08
Beryllium (Be)			<0.5		mg/kg		0.5	28-NOV-08
Cadmium (Cd)			<0.5		mg/kg		0.5	28-NOV-08
Chromium (Cr)			<1		mg/kg		1	28-NOV-08
Cobalt (Co)			<1		mg/kg		1	28-NOV-08
Copper (Cu)			<1		mg/kg		1	28-NOV-08
Lead (Pb)			<1		mg/kg		1	28-NOV-08
Molybdenum (Mo)			<1		mg/kg		1	28-NOV-08
Nickel (Ni)			<1		mg/kg		1	28-NOV-08
Silver (Ag)			<0.2		mg/kg		0.2	28-NOV-08
Thallium (TI)			<1		mg/kg		1	28-NOV-08
Vanadium (V)			<1		mg/kg		1	28-NOV-08
Zinc (Zn)			<1		mg/kg		1	28-NOV-08
MOISTURE-WT	Soil							
Batch R762204 WG877654-3 DUP		L712303-10	44.0		0/			
% Moisture		12.2	11.3		%	7.0	26	27-NOV-08
WG877654-2 LCS % Moisture			100				79-120	

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Workorder: L712303

Report Date: 01-DEC-08

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT	Soil							
Batch R762204								
WG877654-2 LCS % Moisture			100		%		79-120	27-NOV-08
WG877654-1 MB			100		70		79-120	27-NOV-08
% Moisture			<0.5		%		0.5	27-NOV-08
PAH-CCME-WT	Soil							
Batch R763496								
WG878132-1 CVS 1-Methylnaphthalene			94		%		71-127	01-DEC-08
2-Methylnaphthalene			83		%		68-115	01-DEC-08
Acenaphthene			96		%		66-128	01-DEC-08
Acenaphthylene			96		%		60-126	01-DEC-08
Acridine			111		%		69-145	01-DEC-08
Anthracene			93		%		64-123	01-DEC-08
Benzo(a)anthracene			91		%		75-134	01-DEC-08
Benzo(a)pyrene			90		%		60-135	01-DEC-08
Benzo(b)fluoranthene			80		%		67-131	01-DEC-08
Benzo(g,h,i)perylene			91		%		60-136	01-DEC-08
Benzo(k)fluoranthene			99		%		68-137	01-DEC-08
Chrysene			100		%		72-131	01-DEC-08
Dibenzo(ah)anthracene	e		94		%		64-133	01-DEC-08
Fluoranthene			89		%		75-124	01-DEC-08
Fluorene			100		%		75-127	01-DEC-08
Indeno(1,2,3-cd)pyrene	•		88		%		58-140	01-DEC-08
Naphthalene			94		%		69-122	01-DEC-08
Phenanthrene			87		%		77-126	01-DEC-08
Pyrene			90		%		76-127	01-DEC-08
Quinoline			109		%		70-120	01-DEC-08
WG877577-4 DUP 1-Methylnaphthalene		L712303-1 < 0.05	<0.05	RPD-NA	mg/kg	NI/A	65	01 DEC 09
2-Methylnaphthalene		<0.05	<0.05		mg/kg	N/A N/A	65 65	01-DEC-08
Acenaphthene		<0.05	<0.05	RPD-NA RPD-NA	mg/kg	N/A N/A	65 65	01-DEC-08 01-DEC-08
Acenaphthylene		<0.05	0.06	RPD-NA	mg/kg	N/A	65 65	01-DEC-08
Acridine		<0.8	<0.8	RPD-NA	mg/kg	N/A	39	01-DEC-08
Anthracene		<0.05	0.07	RPD-NA	mg/kg	N/A	65	01-DEC-08
2.2 20				111 0 11/1		1 4// 1	00	0.000

COMMENTS: QC results are acceptable and within the method data quality objectives.

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Workorder: L712303 Report Date: 01-DEC-08

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-WT	Soil							
Batch R763496								
WG877577-4 DUP		L712303-1 0.14	0.21		malka	0.07	0.0	04 BEQ 00
Benzo(a)anthracene Benzo(a)pyrene		0.14	0.21	J	mg/kg	0.07	0.2	01-DEC-08
Benzo(b)fluoranthene		0.24	0.25	J	mg/kg mg/kg	2.2	65	01-DEC-08
Benzo(g,h,i)perylene		0.18	0.18		mg/kg	0.00	0.2	01-DEC-08
Benzo(k)fluoranthene		0.22	0.95	J,G	mg/kg	0.72 0.04	0.2	01-DEC-08
Chrysene		0.11	0.13	J J	mg/kg	0.04	0.2 0.2	01-DEC-08
Dibenzo(ah)anthracene		0.13	0.22	J	mg/kg	0.03	0.2	01-DEC-08
Fluoranthene		0.19	0.19	J	mg/kg	0.08	0.2	01-DEC-08 01-DEC-08
Fluorene		<0.05	<0.05	J RPD-NA	mg/kg	0.13 N/A	65	01-DEC-08
Indeno(1,2,3-cd)pyrene		0.14	0.36	J,G	mg/kg	0.23	0.2	
Naphthalene		<0.05	<0.05	J,G RPD-NA	mg/kg	0.23 N/A	65	01-DEC-08 01-DEC-08
Phenanthrene		0.09	0.17	J	mg/kg	0.08	0.2	01-DEC-08
Pyrene		0.03	0.17	J	mg/kg	0.08	0.2	01-DEC-08
Quinoline		<0.05	<0.05	S RPD-NA	mg/kg	0.12 N/A	39	01-DEC-08
COMMENTS: QC re	sults are accent				• •	IN/A	39	01-DEC-08
WG877577-2 LCS	suits are accept	able and within th	e memod da	ita quality objective	· .			
1-Methylnaphthalene			100		%		74-131	01-DEC-08
2-Methylnaphthalene			90		%		70-127	01-DEC-08
Acenaphthene			108		%		54-134	01-DEC-08
Acenaphthylene			107		%		49-136	01-DEC-08
Acridine			123		%		43-131	01-DEC-08
Anthracene			103		%		49-134	01-DEC-08
Benzo(a)anthracene			100		%		49-141	01-DEC-08
Benzo(a)pyrene			97		%		42-131	01-DEC-08
Benzo(b)fluoranthene			82		%		46-131	01-DEC-08
Benzo(g,h,i)perylene			97		%		43-126	01-DEC-08
Benzo(k)fluoranthene			117		%		48-143	01-DEC-08
Chrysene			115		%		48-129	01-DEC-08
Dibenzo(ah)anthracene			100		%		49-142	01-DEC-08
Fluoranthene			101		%		50-133	01-DEC-08
Fluorene			109		%		51-137	01-DEC-08
Indeno(1,2,3-cd)pyrene			101		%		38-134	01-DEC-08
Naphthalene			103		%		51-134	01-DEC-08

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-WT	Soil							
Batch R763496								
WG877577-2 LCS Phenanthrene			97		%		57-137	01-DEC-08
Pyrene			100		% %		45-126	01-DEC-08 01-DEC-08
Quinoline			106		%		45-126 25-175	01-DEC-08 01-DEC-08
WG877577-3 LCSD		WG877577-2	100		70		20-170	01-DEC-08
1-Methylnaphthalene		100	106		%	5.5	45	01-DEC-08
2-Methylnaphthalene		90	96		%	6.5	45	01-DEC-08
Acenaphthene		108	113		%	4.3	24	01-DEC-08
Acenaphthylene		107	112		%	5.2	45	01-DEC-08
Acridine		123	125		%	1.5	45	01-DEC-08
Anthracene		103	104		%	0.58	45	01-DEC-08
Benzo(a)anthracene		100	99		%	0.50	45	01-DEC-08
Benzo(a)pyrene		97	100		%	2.8	45	01-DEC-08
Benzo(b)fluoranthene		82	84		%	2.4	45	01-DEC-08
Benzo(g,h,i)perylene		97	101		%	3.9	45	01-DEC-08
Benzo(k)fluoranthene		117	121		%	3.4	45	01-DEC-08
Chrysene		115	115		%	0.32	45	01-DEC-08
Dibenzo(ah)anthracene		100	104		%	3.6	45	01-DEC-08
Fluoranthene		101	102		%	1.9	45	01-DEC-08
Fluorene		109	114		%	4.7	45	01-DEC-08
Indeno(1,2,3-cd)pyrene		101	98		%	2.8	45	01-DEC-08
Naphthalene		103	107		%	3.4	45	01-DEC-08
Phenanthrene		97	101		%	4.0	45	01-DEC-08
Pyrene		100	103		%	2.3	45	01-DEC-08
Quinoline		106	110		%	3.5	45	01-DEC-08
WG877577-1 MB					,,			
1-Methylnaphthalene			<0.05		mg/kg		0.05	01-DEC-08
2-Methylnaphthalene			<0.05		mg/kg		0.05	01-DEC-08
Acenaphthene			<0.05		mg/kg		0.05	01-DEC-08
Acenaphthylene			<0.05		mg/kg		0.05	01-DEC-08
Acridine			<0.8		mg/kg		0.8	01-DEC-08
Anthracene			<0.05		mg/kg		0.05	01-DEC-08
Benzo(a)anthracene			<0.05		mg/kg		0.05	01-DEC-08
Benzo(a)pyrene			<0.02		mg/kg		0.02	01-DEC-08

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Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-WT		Soil							
Batch R7 WG877577-1	763496 MB								
Benzo(b)fluorar				<0.05		mg/kg		0.05	01-DEC-08
Benzo(g,h,i)per	ylene			<0.05		mg/kg		0.05	01-DEC-08
Benzo(k)fluorar	nthene			<0.05		mg/kg		0.05	01-DEC-08
Chrysene				<0.05		mg/kg		0.05	01-DEC-08
Dibenzo(ah)ant	hracene			<0.05		mg/kg		0.05	01-DEC-08
Fluoranthene				<0.05		mg/kg		0.05	01-DEC-08
Fluorene				<0.05		mg/kg		0.05	01-DEC-08
Indeno(1,2,3-co	d)pyrene			<0.05		mg/kg		0.05	01-DEC-08
Naphthalene				<0.05		mg/kg		0.05	01-DEC-08
Phenanthrene				<0.05		mg/kg		0.05	01-DEC-08
Pyrene				<0.05		mg/kg		0.05	01-DEC-08
Quinoline				<0.05		mg/kg		0.05	01-DEC-08
PCB-WT		Soil							
Batch R7	62567								
WG878144-1 Aroclor 1242	cvs			97		%		40-140	28-NOV-08
Aroclor 1248				97		%		55-145	28-NOV-08
Aroclor 1254				101		%		40-140	28-NOV-08
Aroclor 1260				109		%		40-140	28-NOV-08
Total PCBs				101		%		33-138	28-NOV-08
WG878144-2 Aroclor 1242	cvs			96		%		40 440	00 NOV 00
Aroclor 1248				97		%		40-140	29-NOV-08
Aroclor 1254				94		%		55-145 40-140	29-NOV-08 29-NOV-08
Aroclor 1260				98		%		40-140	29-NOV-08
Total PCBs				96		%		33-138	29-NOV-08
WG877577-5	DUP		L712303-9						
Aroclor 1242			<0.01	<0.01	RPD-NA	mg/kg	N/A	50	29-NOV-08
Aroclor 1248			<0.01	<0.01	RPD-NA	mg/kg	N/A	39	29-NOV-08
Aroclor 1254			<0.01	<0.01	RPD-NA	mg/kg	N/A	50	29-NOV-08
Aroclor 1260			<0.01	<0.01	RPD-NA	mg/kg	N/A	50	29-NOV-08
Total PCBs			<0.01	<0.01	RPD-NA	mg/kg	N/A	50	29-NOV-08
WG877577-2 Aroclor 1242	LCS			93				62-133	

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Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-WT		Soil							_
Batch R	R762567								
WG877577-2	LCS								
Aroclor 1242				93		%		62-133	28-NOV-08
Aroclor 1248				90		%		55-145	28-NOV-08
Aroclor 1254				91		%		58-130	28-NOV-08
Aroclor 1260				98		%		56-133	28-NOV-08
Total PCBs				93		%		25-175	28-NOV-08
WG877577-3 Aroclor 1242	LCSD		WG877577-2 93	95		%	1.5	45	28-NOV-08
Aroclor 1248			90	90		%	0.0	45	28-NOV-08
Aroclor 1254			91	92		%	0.68	45	28-NOV-08
Aroclor 1260			98	103		%	4.9	45	28-NOV-08
Total PCBs			93	95		%	1.9	45	28-NOV-08
WG877577-1 Aroclor 1242	МВ			<0.01		mg/kg		0.01	28-NOV-08
Aroclor 1248				<0.01		mg/kg		0.01	28-NOV-08
Aroclor 1254				<0.01		mg/kg		0.01	28-NOV-08
Aroclor 1260				<0.01		mg/kg		0.01	28-NOV-08
Total PCBs				<0.01		mg/kg		0.01	28-NOV-08
PH-R153-WT		Soil							
Batch F	R762512								
WG878105-1	cvs			400		0/			1101/
pH	5.1.5			100		%		63-138	27-NOV-08
WG878105-2 pH	DUP		L712274-1 7.20	7.13		pH units	0.98	26	27-NOV-08
WG878105-3 рН	DUP		L712303-1 9.63	10.3		pH units	7.1	26	27-NOV-08
VOC-CCME-TAB	LE1-WT	Soil							
	R762774								
WG877833-1	cvs								
1,1,1,2-Tetrac	hloroethar	ne		94		%		75-125	28-NOV-08
1,1,1-Trichlord				97		%		75-125	28-NOV-08
1,1,2,2-Tetrac	hloroethar	ne		98		%		75-125	28-NOV-08
1,1,2-Trichlord	oethane			99		%		75-125	28-NOV-08
1,1-Dichloroet	thane			99		%		75-125	28-NOV-08
1,1-Dichloroet	thylene			97		%		75-125	28-NOV-08

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-CCME-TABLE1-WT	Soil							
Batch R762774								
WG877833-1 CVS			0.4		0/			
1,2-Dichlorobenzene			94		%		75-125	28-NOV-08
1,2-Dichloroethane			104		%		75-125	28-NOV-08
1,2-Dichloropropane			99		%		75-125	28-NOV-08
1,3-Dichlorobenzene			96		%		75-125	28-NOV-08
1,4-Dichlorobenzene			94		%		75-125	28-NOV-08
2-Hexanone			102		%		75-125	28-NOV-08
Acetone			106		%		75-125	28-NOV-08
Benzene			102		%		75-125	28-NOV-08
Bromodichloromethane			101		%		75-125	28-NOV-08
Bromoform			97		%		75-125	28-NOV-08
Bromomethane			104		%		55-145	28-NOV-08
Carbon Disulfide			102		%		75-125	28-NOV-08
Carbon tetrachloride			99		%		75-125	28-NOV-08
Chlorobenzene			97		%		75-125	28-NOV-08
Dibromochloromethane			92		%		75-125	28-NOV-08
Chloroethane			104		%		75-125	28-NOV-08
Chloroform			100		%		75-125	28-NOV-08
Chloromethane			97		%		75-125	28-NOV-08
cis-1,2-Dichloroethylene			93		%		75-125	28-NOV-08
cis-1,3-Dichloropropene			93		%		75-125	28-NOV-08
Dibromomethane			99		%		55-145	28-NOV-08
Dichlorodifluoromethane)		75		%		75-125	28-NOV-08
Ethyl Benzene			97		%		75-125	28-NOV-08
1,2-Dibromoethane			95		%		55-145	28-NOV-08
m+p-Xylenes			98		%		75-125	28-NOV-08
Methyl Ethyl Ketone			114		%		75-125	28-NOV-08
Methyl Isobutyl Ketone			107		%		55-145	28-NOV-08
MTBE			99		%		75-125	28-NOV-08
Dichloromethane			98		%		55-145	28-NOV-08
o-Xylene			93		%		75-125	28-NOV-08
Styrene			88		%		75-125	28-NOV-08
Tetrachloroethylene			95		%		75-125	28-NOV-08
Toluene			102		%		75-125	28-NOV-08

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-CCME-TABLE1-WT	Soil							
Batch R762774								
WG877833-1 CVS	lono		400		0/		75	00.1101/ 5-5
trans-1,2-Dichloroethy			102		%		75-125	28-NOV-08
trans-1,3-Dichloroprop	ene		92		%		75-125	28-NOV-08
Trichloroethylene			91		%		75-125	28-NOV-08
Trichlorofluoromethan	е		112		%		66-137	28-NOV-08
Vinyl chloride			105		%		75-125	28-NOV-08
WG877517-3 DUP 1,1,1,2-Tetrachloroeth	ane	WG877517-2 <0.008	<0.008	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,1,1-Trichloroethane		<0.008	<0.008	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,1,2,2-Tetrachloroeth	ane	<0.004	<0.004	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,1,2-Trichloroethane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,1-Dichloroethane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,1-Dichloroethylene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,2-Dichlorobenzene		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,2-Dichloroethane		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,2-Dichloropropane		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,3-Dichlorobenzene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,4-Dichlorobenzene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
2-Hexanone		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	28-NOV-08
Acetone		<0.5	<0.5	RPD-NA	mg/kg	N/A	39	28-NOV-08
Benzene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
Bromodichloromethan	е	<0.005	<0.005	RPD-NA	mg/kg	N/A	39	28-NOV-08
Bromoform		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
Bromomethane		<0.003	<0.003	RPD-NA	mg/kg	N/A	39	28-NOV-08
Carbon Disulfide		<0.02	< 0.02	RPD-NA	mg/kg	N/A	39	28-NOV-08
Carbon tetrachloride		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
Chlorobenzene		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
Dibromochloromethan	е	<0.003	< 0.003	RPD-NA	mg/kg	N/A	39	28-NOV-08
Chloroethane		<0.03	<0.03	RPD-NA	mg/kg	N/A	39	28-NOV-08
Chloroform		<0.006	<0.006	RPD-NA	mg/kg	N/A	39	28-NOV-08
Chloromethane		<0.03	<0.03	RPD-NA	mg/kg	N/A	39	28-NOV-08
cis-1,2-Dichloroethyler	ne	<0.02	<0.02	RPD-NA	mg/kg	N/A	39	28-NOV-08
cis-1,3-Dichloroproper	ne	<0.003	<0.003	RPD-NA	mg/kg	N/A	39	28-NOV-08
Dibromomethane		<0.01	<0.01	RPD-NA	mg/kg	N/A	39	28-NOV-08

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-CCME-TABLE1-WT	Soil							
Batch R762774								
WG877517-3 DUP Dichlorodifluoromethane	e	WG877517-2 <0.03	<0.03	RPD-NA	mg/kg	N/A	39	28-NOV-08
Ethyl Benzene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
1,2-Dibromoethane		<0.004	<0.004	RPD-NA	mg/kg	N/A	39	28-NOV-08
m+p-Xylenes		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
Methyl Ethyl Ketone		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	28-NOV-08
Methyl Isobutyl Ketone		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	28-NOV-08
MTBE		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	28-NOV-08
Dichloromethane		<0.003	<0.003	RPD-NA	mg/kg	N/A	39	28-NOV-08
o-Xylene		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
Styrene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
Tetrachloroethylene		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
Toluene		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
trans-1,2-Dichloroethyle	ne	<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	28-NOV-08
trans-1,3-Dichloroprope	ne	<0.003	<0.003	RPD-NA	mg/kg	N/A	39	28-NOV-08
Trichloroethylene		<0.004	<0.004	RPD-NA	mg/kg	N/A	39	28-NOV-08
Trichlorofluoromethane		<0.03	< 0.03	RPD-NA	mg/kg	N/A	39	28-NOV-08
Vinyl chloride		<0.003	< 0.003	RPD-NA	mg/kg	N/A	39	28-NOV-08
WG877517-1 MB 1,1,1,2-Tetrachloroethar	26		<0.008		mg/kg		0.008	00 NOV 00
1,1,1-Trichloroethane	10		<0.008		mg/kg		0.008	28-NOV-08
1,1,2,2-Tetrachloroethar	20		<0.004				0.004	28-NOV-08
1,1,2-Trichloroethane	IC		<0.004		mg/kg mg/kg		0.004	28-NOV-08 28-NOV-08
1,1-Dichloroethane			<0.002		mg/kg		0.002	
1,1-Dichloroethylene			<0.002		mg/kg		0.002	28-NOV-08 28-NOV-08
1,2-Dichlorobenzene			<0.002		mg/kg		0.002	28-NOV-08
1,2-Dichloroethane			<0.002		mg/kg		0.002	28-NOV-08
1,2-Dichloropropane			<0.002		mg/kg		0.002	28-NOV-08
1,3-Dichlorobenzene			<0.002		mg/kg		0.002	28-NOV-08
1,4-Dichlorobenzene			<0.002		mg/kg		0.002	28-NOV-08
2-Hexanone			<0.2		mg/kg		0.2	28-NOV-08
Acetone			<0.5		mg/kg		0.5	28-NOV-08
Benzene			<0.002		mg/kg		0.002	28-NOV-08
Bromodichloromethane			<0.005		mg/kg		0.005	28-NOV-08
					שייים			20 140 1-00

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-CCME-TABLE1-WT	Soil							
Batch R762774								
WG877517-1 MB Bromoform			<0.002		mg/kg		0.002	00 NOV 00
Bromomethane			<0.002				0.002	28-NOV-08
Carbon Disulfide			<0.003		mg/kg		0.003	28-NOV-08
Carbon tetrachloride			<0.02		mg/kg		0.02	28-NOV-08
Chlorobenzene			<0.002		mg/kg		0.002	28-NOV-08
Dibromochloromethane					mg/kg		0.002	28-NOV-08
Chloroethane			<0.003		mg/kg		0.003	28-NOV-08
Chloroform			<0.03 <0.006		mg/kg		0.006	28-NOV-08
					mg/kg			28-NOV-08
Chloromethane			<0.03		mg/kg		0.03	28-NOV-08
cis-1,2-Dichloroethylene			<0.02		mg/kg		0.02	28-NOV-08
cis-1,3-Dichloropropene Dibromomethane			<0.003		mg/kg			28-NOV-08
			<0.01		mg/kg		0.01	28-NOV-08
Dichlorodifluoromethane	•		<0.03		mg/kg		0.03	28-NOV-08
Ethyl Benzene			<0.002		mg/kg		0.002	28-NOV-08
1,2-Dibromoethane			<0.004		mg/kg		0.004	28-NOV-08
m+p-Xylenes			<0.002		mg/kg		0.002	28-NOV-08
Methyl Ethyl Ketone			<0.2		mg/kg		0.2	28-NOV-08
Methyl Isobutyl Ketone			<0.2		mg/kg		0.2	28-NOV-08
MTBE			<0.2		mg/kg		0.2	28-NOV-08
Dichloromethane			<0.003		mg/kg		0.003	28-NOV-08
o-Xylene			<0.002		mg/kg		0.002	28-NOV-08
Styrene			<0.002		mg/kg		0.002	28-NOV-08
Tetrachloroethylene			<0.002		mg/kg		0.002	28-NOV-08
Toluene			<0.002		mg/kg		0.002	28-NOV-08
trans-1,2-Dichloroethyler			<0.002		mg/kg		0.002	28-NOV-08
trans-1,3-Dichloroproper	ne		<0.003		mg/kg		0.003	28-NOV-08
Trichloroethylene			<0.004		mg/kg		0.004	28-NOV-08
Trichlorofluoromethane			< 0.03		mg/kg		0.03	28-NOV-08
Vinyl chloride			<0.003		mg/kg		0.003	28-NOV-08

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Legend:

Limit	99% Confidence Interval (Laboratory Control Limits)
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
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.





Certificate of Analysis

XCG CONSULTANTS LTD.

ATTN: THOMAS KOLODZIEJ

820 TRILLIUM DRIVE

Reported On: 05-DEC-08 01:29 PM

KITCHENER ON N2R 1K4

Lab Work Order #: L713254 Date Received: 01-DEC-08

Project P.O. #:

Job Reference: 5-698-17-02

Legal Site Desc:

CofC Numbers: 69264

Other Information:

Comments:

NANCY GRAHAM Account Manager

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN AUTHORITY OF THE LABORATORY. ALL SAMPLES WILL BE DISPOSED OF AFTER 30 DAYS FOLLOWING ANALYSIS. PLEASE CONTACT THE LAB IF YOU REQUIRE ADDITIONAL SAMPLE STORAGE TIME.

ALS Canada Ltd. (formerly ETL Chemspec Analytical Ltd.)
Part of the ALS Laboratory Group

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ALS LABORATORY GROUP CRITERIA REPORT

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	-	0 ""			0 11 1			08 13:24:4
Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
L713254-1 BH3 (SS-2)								
Sampled By: CLIENT on 27-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
Manne. Sole					OR OTHER		_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS	.4				_	4	00 DEO 00	D704044
Antimony (Sb) Arsenic (As)	<1		1 1	mg/kg	1 14	1 17	02-DEC-08 02-DEC-08	R764211 R764211
Selenium (Se)	<1		1	mg/kg	1.4	1.9	02-DEC-08	R764211
	<0.1			mg/kg	1.4	1.9		
Boron (B), Available			0.1	ug/g			02-DEC-08	R764169
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	04-DEC-08	R765163
Mercury (Hg)	<0.05		0.05	ug/g	0.16	0.23	02-DEC-08	R764296
Standard Metal Scan (ICP)								
Barium (Ba)	18		1	mg/kg	190	210	02-DEC-08	R764231
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	02-DEC-08	R764231
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	02-DEC-08	R764231
Chromium (Cr)	7		1	mg/kg	67	71	02-DEC-08	R764231
Cobalt (Co)	3		1	mg/kg	19	21	02-DEC-08	R764231
Copper (Cu)	8		1	mg/kg	56	85	02-DEC-08	R764231
Lead (Pb)	14		1	mg/kg	55	120	02-DEC-08	R764231
Molybdenum (Mo)	<1		1	mg/kg	2.5	2.5	02-DEC-08	R764231
Nickel (Ni)	5		1	mg/kg	43	43	02-DEC-08	R764231
Silver (Ag)	<0.2		0.2	mg/kg	0.35	0.42	02-DEC-08	R764231
Thallium (TI)	<1		1	mg/kg	2.5	2.5	02-DEC-08	R764231
Vanadium (V)	8		1	mg/kg	91	91	02-DEC-08	R764231
Zinc (Zn)	102		1	mg/kg	150	160	02-DEC-08	R764231
VOC, F1-F4 (O.Reg.153/04)								
CCME Total Hydrocarbons								
F1 (C6-C10)	<5		5	mg/kg			04-DEC-08	
F1-BTEX	<5		5	mg/kg			04-DEC-08	
F2 (C10-C16)	<10		10	mg/kg			04-DEC-08	
F2-Naphth	<10		10	mg/kg			04-DEC-08	
F3 (C16-C34)	<50		50	mg/kg			04-DEC-08	
F3-PAH	<50		50	mg/kg			04-DEC-08	
F4 (C34-C50)	<50		50	mg/kg			04-DEC-08	
Total Hydrocarbons (C6-C50)	<50		50	mg/kg			04-DEC-08	
Chromatogram to baseline at nC50	YES			No Unit			04-DEC-08	
Prep/Analysis Dates				No Unit			02-DEC-08	R764516
				140 01111			02 020 00	11704010
F2-F4 (O.Reg.153/04)				No Unit			04 DEC 00	D70504.4
Prep/Analysis Dates Surr: Octacosane	84		60 400	%			04-DEC-08	R765314 R765314
	04		60-120	70			04-DEC-08	K/00314
Volatile Organics (153/04) Table 1								
1,1,1,2-Tetrachloroethane	<0.008		0.008	mg/kg			02-DEC-08	R763892
1,1,2,2-Tetrachloroethane	<0.004		0.004	mg/kg	0.004	0.004	02-DEC-08	R763892
1,1,1-Trichloroethane	<0.008		0.008	mg/kg	0.009	0.009	02-DEC-08	R763892
1,1,2-Trichloroethane	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
1,1-Dichloroethane	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
1,1-Dichloroethylene 1,2-Dichlorobenzene	<0.002 <0.002		0.002	mg/kg	0.002 0.002	0.002 0.002	02-DEC-08	R763892
1,2-Dichlorobenzene 1,2-Dichloroethane	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
1,2-Dichloroethane 1,2-Dibromoethane	<0.002		0.002 0.004	mg/kg mg/kg	0.002	0.002	02-DEC-08 02-DEC-08	R763892 R763892
1,2 DIDITIOGUIANE	\0.004		0.004	mg/kg	0.004	0.004	02-010-08	11/05092

^{**} analytical results for this parameter exceed criteria limits listed on this report





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								05-DEC	
Sample De	tails/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	cific Limits	Analyzed	Batch
L713254-1	BH3 (SS-2)								
Sampled By	, ,								
Matrix:	SOIL					AGRICULTURAL	ALL OTHER		
Matrix.	SOIL					OR OTHER			
VOC, F1-F4	(O.Reg.153/04)								
Volatile C	Organics (153/04) Table 1								
	1,2-Dichloropropane	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	1,3-Dichlorobenzene	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	1,4-Dichlorobenzene	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	2-Hexanone	<0.2		0.2	mg/kg			02-DEC-08	R763892
	Acetone	<0.5		0.5	mg/kg			02-DEC-08	R763892
	Benzene	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	Bromodichloromethane	<0.005		0.005	mg/kg			02-DEC-08	R763892
	Bromoform	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	Bromomethane	<0.003		0.003	mg/kg	0.003	0.003	02-DEC-08	R763892
	Carbon Disulfide	<0.02		0.02	mg/kg			02-DEC-08	R763892
	Carbon tetrachloride	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	Chlorobenzene	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	Chloroethane	<0.03		0.03	mg/kg			02-DEC-08	R763892
	Chloroform	<0.006		0.006	mg/kg	0.006	0.006	02-DEC-08	R763892
	Chloromethane	<0.03		0.03	mg/kg			02-DEC-08	R763892
	cis-1,2-Dichloroethylene	<0.02		0.02	mg/kg			02-DEC-08	R763892
	cis-1,3-Dichloropropene	<0.003		0.003	mg/kg	0.003	0.003	02-DEC-08	R763892
	Dibromomethane	<0.01		0.01	mg/kg			02-DEC-08	R763892
	Dibromochloromethane	<0.003		0.003	mg/kg	0.003	0.003	02-DEC-08	R763892
	Dichlorodifluoromethane	<0.03		0.03	mg/kg			02-DEC-08	R763892
	Dichloromethane	<0.003		0.003	mg/kg	0.003	0.003	02-DEC-08	R763892
	Ethyl Benzene	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	MTBE	<0.2		0.2	mg/kg			02-DEC-08	R763892
	m+p-Xylenes	<0.002		0.002	mg/kg			02-DEC-08	R763892
	Methyl Ethyl Ketone	<0.2		0.2	mg/kg			02-DEC-08	R763892
	Methyl Isobutyl Ketone	<0.2		0.2	mg/kg			02-DEC-08	R763892
	o-Xylene	<0.002		0.002	mg/kg			02-DEC-08	R763892
	Styrene	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	Tetrachloroethylene	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
	Toluene	0.003		0.002	mg/kg	** 0.002	** 0.002	02-DEC-08	R763892
	trans-1,2-Dichloroethylene	<0.002		0.002	mg/kg	0.003	0.003	02-DEC-08	R763892
	trans-1,3-Dichloropropene	<0.003		0.003	mg/kg	0.003	0.003	02-DEC-08	R763892
	Trichloroethylene	<0.004		0.004	mg/kg	0.004	0.004	02-DEC-08	R763892
	Trichlorofluoromethane	<0.03		0.03	mg/kg			02-DEC-08	R763892
	Vinyl chloride	<0.003		0.003	mg/kg	0.003	0.003	02-DEC-08	R763892
	Xylenes (Total)	<0.002		0.002	mg/kg	0.002	0.002	02-DEC-08	R763892
Surr:	1,2-Dichloroethane d4	95		25-175	%			02-DEC-08	R763892
Surr:	Toluene-d8	91		25-175	%			02-DEC-08	R763892
Surr:	4-Bromofluorobenzene	114		25-175	%			02-DEC-08	R763892
Individual A	Analytes								
	% Moisture	8.0		0.5	%			01-DEC-08	R763998
CCME PA	\Hs								
	1-Methylnaphthalene	<0.05		0.05	mg/kg	0.05	0.26	03-DEC-08	R764751
	2-Methylnaphthalene	<0.05		0.05	mg/kg	0.03	0.20	03-DEC-08	R764751
	Acenaphthene	<0.05		0.05	mg/kg	0.05	0.07	03-DEC-08	R764751
	Acenaphthylene	<0.05		0.05	mg/kg	0.08	0.08	03-DEC-08	R764751
	Acridine	<0.8		0.05	mg/kg	0.00	0.00	03-DEC-08	R764751
	ACTUILLE	\0.0		0.6	mg/kg			03-DEC-08	N/04/31

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Benzo(a)anthracene	Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
Matrix: SOIL AGRICULTURAL OR OTHER AGRICULTURAL OR OTHER AGRICULTURAL OR OTHER	1 BH3 (SS-2)								
Metrix: SOIL	` '								
Individual Analytes CCME PAHS Anthracene <0.05 0.05 0.05 mg/kg 0.05 0.16 03-DEC-08 Benzo(a)anthracene <0.05 0.05 mg/kg 0.10 0.74 03-DEC-08 Benzo(a)anthracene <0.05 0.05 mg/kg 0.10 0.74 03-DEC-08 Benzo(b)fluoranthene <0.05 0.05 mg/kg 0.30 0.47 03-DEC-08 Benzo(b)fluoranthene <0.05 0.05 mg/kg 0.30 0.47 03-DEC-08 Benzo(b)fluoranthene <0.05 0.05 mg/kg 0.30 0.47 03-DEC-08 0.05 mg/kg 0.05 0.48 03-DEC-08 0.05 mg/kg 0.05 0.48 03-DEC-08 0.05 mg/kg 0.05 0.48 03-DEC-08 0.05 mg/kg 0.16 0.05 0.05 mg/kg 0.16 0.05 0.05 mg/kg 0.16 0.05 0.05 mg/kg 0.15 0.16 03-DEC-08 0.05 mg/kg 0.05 0.12 03-DEC-08 0.05 mg/kg 0.15 0.16 03-DEC-08 0.05 mg/kg 0.15 0.16 0.05 0.05 mg/kg 0.15 0.05 0.05 0.05 0.05 mg/kg 0.15 0.05	•					AGRICUII TURAI	ALL OTHER		
CCME PAHs	JOIL							_	
Anthracene	al Analytes								
Bertzo(a)anthracene	PAHs								
Benzo(a)pyrene	Anthracene	< 0.05		0.05	mg/kg	0.05	0.16	03-DEC-08	R76475
Benzo(b)fluoranthene	Benzo(a)anthracene			0.05	mg/kg	0.10	0.74	03-DEC-08	R76475
Benzo(g,h.i)perylene	Benzo(a)pyrene			0.02			0.49	03-DEC-08	R76475
Benzo(k)fluoranthene								03-DEC-08	R76475
Chrysene				1					R76475
Dibenzo(ah)anthracene								1	R76475
Fluoranthene	,							1	R76475
Fluorene	1 1								R76475
Indenot(1,2,3-od)pyrene									R76475
Naphthalene	l l								R76475
Phenanthrene	, , , , , , , , , , , , , , , , , , , ,							1	R76475
Pyrene	•								R76475
Quinoline \$0.05 \$0.05 \$mg/kg \$0.3-DEC-08									R76475
Surr: 2-Fluorobiphenyl 87 84 50-150 % 03-DEC-08 O3-DEC-08 PH 7.97 0.01 PH units 01-DEC-08 O1-DEC-08 O1-DEC	,					0.19	1.0		R76475
Surr: p-Terphenyl d14									R76475
PH 7.97 0.01 pH units 01-DEC-08 7.13254-2 BH10 (SS-1) Sampled By: CLIENT on 27-NOV-08 Matrix: SOIL F1-F4 (O.Reg.153/04) CCME Total Hydrocarbons F1 (C6-C10) <5 5 mg/kg F2-Naphth <100 mg/kg F3-PAH 1300 DLA 500 mg/kg F4 (C34-C50) 2600 DLA 500 mg/kg F4 (C34-C50) 2600 DLA 500 mg/kg F4 (C34-C50) 3900 5-DEC-08 Total Hydrocarbons (C6-C50) A 500 mg/kg Total Hydrocarbons					l .				R76475
AGRICULTURAL OR OTHER ALL OTHER		-							
AGRICULTURAL OR OTHER AGRICULTURAL OR OTHER	рп			0.01	pri units			01-DEC-06	R76400
Matrix: SOIL Matrix: SOIL Matrix: SOIL Matrix: SOIL AGRICULTURAL OR OTHER ALL OTHER AGRICULTURAL OR OTHER OS-DEC-08 65-DEC-08 65-DEC-08 65-DEC-08 65-DEC-08 65-DEC-08 65-DEC-08 65-DEC-08 65-DEC-08 65-DEC-08 No Unit OS-DEC-08 F2-F4 (O.Reg.153/04) Prep/Analysis Dates NO Unit OS-DEC-08 F2-F4 (O.Reg.153/04) Prep/Analysis Dates Surr: Octacosane O SOL:MI 60-120 % Regulation 153 Metals, Hg, Cr6+, Avail B As, Sb and Se by ICP/MS Antimony (Sb) 41 1 mg/kg 1 1 1 02-DEC-08	2 BH10 (SS-1)								
F1-F4 (O.Reg.153/04) CCME Total Hydrocarbons F1 (C6-C10)	By: CLIENT on 27-NOV-08								
F1-F4 (O.Reg.153/04) CCME Total Hydrocarbons F1 (C6-C10)	SOIL						ALL OTHER		
CCME Total Hydrocarbons F1 (C6-C10) F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH F4 (C34-C50) F4 (C34-C50) F4 (C34-C50) F4 (C5-C50) F5 (C10-C16) F5 (C10-C16) F7 (C6-C34) F7 (C16-C34) F3-PAH F4 (C34-C50) F4 (C34-C50) F4 (C34-C50) F4 (C34-C50) F4 (C34-C50) F4 (C34-C50) F7 (C6-C30) F7 (C6-C						OR OTHER		-	
F1 (C6-C10)	.Reg.153/04)								
F1 (C6-C10)	,								
F2 (C10-C16)		<5		5	ma/ka			05-DEC-08	
F2-Naphth	` '		DLA		, ,				
F3 (C16-C34) F3-PAH F3-PAH F3-PAH F4 (C34-C50) F4G-SG (GHH-Silica) F4G-SG (GHH-Silica) F7900 F100 F100 F100 F100 F100 F100 F100 F	` ,		DEA.						
F3-PAH F4 (C34-C50) F4 (C34-C50) F4G-SG (GHH-Silica) F4G-SG (GHH-Silica) F4G-SG (GHH-Silica) F4G-SG (GHH-Silica) F500 F500 F7900 F79	•		DLA						
F4 (C34-C50) 2600 DLA 500 mg/kg 05-DEC-08 7900 Total Hydrocarbons (C6-C50) 3900 Chromatogram to baseline at nC50 Prep/Analysis Dates Prep/Analysis Dates Surr: Octacosane Regulation 153 Metals, Hg, Cr6+, Avail B As, Sb and Se by ICP/MS Antimony (Sb) C5-DEC-08 7900 DLA 500 mg/kg 05-DEC-08 100 mg/kg 100 mg/k	` ,								
F4G-SG (GHH-Silica) 7900 3900 5-DEC-08 Total Hydrocarbons (C6-C50) 3900	F4 (C34-C50)	2600	DLA	500				05-DEC-08	
Total Hydrocarbons (C6-C50) 3900	,	7900						05-DEC-08	
nC50 Prep/Analysis Dates F2-F4 (O.Reg.153/04) Prep/Analysis Dates Surr: Octacosane Regulation 153 Metals, Hg, Cr6+, Avail B As, Sb and Se by ICP/MS Antimony (Sb) No Unit No Unit 04-DEC-08 No Unit 04-DEC-08 1 mg/kg 1 1 02-DEC-08		3900		500				05-DEC-08	
Prep/Analysis Dates F2-F4 (O.Reg.153/04)	Chromatogram to baseline at	NO			No Unit			05-DEC-08	
F2-F4 (O.Reg.153/04)	nC50								
Prep/Analysis Dates 0 SOL:MI No Unit 04-DEC-08 Surr: Octacosane 0 SOL:MI 60-120 % 04-DEC-08 Regulation 153 Metals, Hg, Cr6+, Avail B As, Sb and Se by ICP/MS 1 1 1 02-DEC-08	Prep/Analysis Dates				No Unit			02-DEC-08	R76451
Surr: Octacosane 0 SOL:MI 60-120 % 04-DEC-08 Regulation 153 Metals, Hg, Cr6+, Avail B As, Sb and Se by ICP/MS 1 1 mg/kg 1 1 02-DEC-08	O.Reg.153/04)								
Surr: Octacosane 0 SOL:MI 60-120 % 04-DEC-08 Regulation 153 Metals, Hg, Cr6+, Avail B As, Sb and Se by ICP/MS 1 1 mg/kg 1 1 02-DEC-08					No Unit			04-DEC-08	R76531
As, Sb and Se by ICP/MS Antimony (Sb) 1 1 mg/kg 1 1 02-DEC-08	r: Octacosane	0	SOL:MI	60-120	%			04-DEC-08	R76531
As, Sb and Se by ICP/MS Antimony (Sb) <1	on 153 Metals, Hg, Cr6+, Avail B								
Antimony (Sb) <1 1 mg/kg 1 1 02-DEC-08									
	•	<1		1	ma/ka	1	1	02-DFC-08	R76421
· ,	* ` '				00				R76421
Selenium (Se) <1 1 mg/kg 1.4 1.9 02-DEC-08	` '							02-DEC-08	R76421
								02-DEC-08	R76416
						2.5	2.5	02-DEC-08	R76516

^{**} analytical results for this parameter exceed criteria limits listed on this report





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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Specific Limits Analyzed		Analyzed	Batch
_713254-2 BH10 (SS-1)								
Sampled By: CLIENT on 27-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
viality. GOIE					OR OTHER		_	
Regulation 153 Metals, Hg, Cr6+, Avail B								
Mercury (Hg)	< 0.05		0.05	ug/g	0.16	0.23	02-DEC-08	R76429
Standard Metal Scan (ICP)				39.9				
Barium (Ba)	17		1	mg/kg	190	210	02-DEC-08	R76423
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	02-DEC-08	R76423
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	02-DEC-08	R76423
Chromium (Cr)	6		1	mg/kg	67	71	02-DEC-08	R76423
` '	3				19	21		
Cobalt (Co)	ა 11		1	mg/kg			02-DEC-08	R76423
Copper (Cu)			1	mg/kg	56	85	02-DEC-08	R76423
Lead (Pb)	17		1	mg/kg	55	120	02-DEC-08	R76423
Molybdenum (Mo)	<1 -		1	mg/kg	2.5	2.5	02-DEC-08	R76423
Nickel (Ni)	5		1	mg/kg	43	43	02-DEC-08	R76423
Silver (Ag)	<0.2		0.2	mg/kg	0.35	0.42	02-DEC-08	R76423
Thallium (TI)	<1		1	mg/kg	2.5	2.5	02-DEC-08	R76423
Vanadium (V)	8		1	mg/kg	91	91	02-DEC-08	R76423
Zinc (Zn)	99		1	mg/kg	150	160	02-DEC-08	R76423
ndividual Analytes								
% Moisture	4.5		0.5	%			01-DEC-08	R76399
CCME PAHs								
1-Methylnaphthalene	< 0.05		0.05	mg/kg	0.05	0.26	03-DEC-08	R76475
2-Methylnaphthalene	< 0.05		0.05	mg/kg			03-DEC-08	R76475
Acenaphthene	<0.05		0.05	mg/kg	0.05	0.07	03-DEC-08	R76475
Acenaphthylene	< 0.05		0.05	mg/kg	0.08	0.08	03-DEC-08	R76475
Acridine	<0.8		0.8	mg/kg			03-DEC-08	R76475
Anthracene	<0.05		0.05	mg/kg	0.05	0.16	03-DEC-08	R76475
Benzo(a)anthracene	<0.05		0.05	mg/kg	0.10	0.74	03-DEC-08	R76475
Benzo(a)pyrene	<0.03				0.10	0.49	03-DEC-08	R76475
1 11 1	<0.02		0.02	mg/kg				
Benzo(b)fluoranthene			0.05	mg/kg	0.30	0.47	03-DEC-08	R76475
Benzo(g,h,i)perylene	0.06		0.05	mg/kg	0.20	0.68	03-DEC-08	R76475
Benzo(k)fluoranthene	<0.05		0.05	mg/kg	0.05	0.48	03-DEC-08	R76475
Chrysene	0.09		0.05	mg/kg	0.18	0.69	03-DEC-08	R76475
Dibenzo(ah)anthracene	< 0.05		0.05	mg/kg	0.15	0.16	03-DEC-08	R76475
Fluoranthene	<0.05		0.05	mg/kg	0.24	1.1	03-DEC-08	R76475
Fluorene	<0.05		0.05	mg/kg	0.05	0.12	03-DEC-08	R76475
Indeno(1,2,3-cd)pyrene	< 0.05		0.05	mg/kg	0.11	0.38	03-DEC-08	R76475
Naphthalene	< 0.05		0.05	mg/kg	0.05	0.09	03-DEC-08	R76475
Phenanthrene	< 0.05		0.05	mg/kg	0.19	0.69	03-DEC-08	R76475
Pyrene	< 0.05		0.05	mg/kg	0.19	1.0	03-DEC-08	R76475
Quinoline	< 0.05		0.05	mg/kg			03-DEC-08	R76475
Surr: 2-Fluorobiphenyl	88		50-150	%			03-DEC-08	R76475
Surr: p-Terphenyl d14	89		52-158	%			03-DEC-08	R76475
Prep/Analysis Dates	-		00	No Unit			05-DEC-08	R76558
pH	10.5		0.01	pH units			05-DEC-08	R76400
•	. 3.0		0.01	priants			31 220 00	1170400
_713254-3 BH11 (SS-2)								
Sampled By: CLIENT on 27-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		_	

^{**} analytical results for this parameter exceed criteria limits listed on this report





ALS LABORATORY GROUP CRITERIA REPORT

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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
_713254-3 BH11 (SS-2)								
Sampled By: CLIENT on 27-NOV-08								
' '					AGRICULTURAL	ALL OTHER		
Matrix: SOIL					OR OTHER			
F4 F4 (O Box 452/04)								
F1-F4 (O.Reg.153/04)								
CCME Total Hydrocarbons	_		_					
F1 (C6-C10)	<5 -10		5	mg/kg			04-DEC-08	
F2 (C10-C16) F2-Naphth	<10 <10		10 10	mg/kg			04-DEC-08 04-DEC-08	
F3 (C16-C34)	<50		50	mg/kg mg/kg			04-DEC-08	
F3-PAH	<50		50	mg/kg			04-DEC-08	
F4 (C34-C50)	<50		50	mg/kg			04-DEC-08	
Total Hydrocarbons (C6-C50)	<50		50	mg/kg			04-DEC-08	
Chromatogram to baseline at nC50	YES			No Unit			04-DEC-08	
Prep/Analysis Dates				No Unit			02-DEC-08	R764516
F2-F4 (O.Reg.153/04)								
Prep/Analysis Dates				No Unit			04-DEC-08	R765314
Surr: Octacosane	78		60-120	%			04-DEC-08	R765314
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	02-DEC-08	R764211
Arsenic (As)	1		1	mg/kg	14	17	02-DEC-08	R764211
Selenium (Se)	<1		1	mg/kg	1.4	1.9	02-DEC-08	R764211
Boron (B), Available	<0.1		0.1	ug/g			02-DEC-08	R764169
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	04-DEC-08	R765163
Mercury (Hg)	< 0.05		0.05	ug/g	0.16	0.23	02-DEC-08	R764296
Standard Metal Scan (ICP)								
Barium (Ba)	18		1	mg/kg	190	210	02-DEC-08	R764231
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	02-DEC-08	R764231
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	02-DEC-08	R764231
Chromium (Cr)	8		1	mg/kg	67	71	02-DEC-08	R764231
Cobalt (Co)	3		1	mg/kg	19	21	02-DEC-08	R764231
Copper (Cu)	8		1	mg/kg	56	85	02-DEC-08	R764231
Lead (Pb)	11		1	mg/kg	55	120	02-DEC-08	R764231
Molybdenum (Mo)	<1		1	mg/kg	2.5	2.5	02-DEC-08	R764231
Nickel (Ni)	5		1	mg/kg	43	43	02-DEC-08	R764231
Silver (Ag)	<0.2		0.2	mg/kg	0.35	0.42	02-DEC-08	R764231
Thallium (TI)	<1		1	mg/kg	2.5	2.5	02-DEC-08	R764231
Vanadium (V)	9 44		1	mg/kg	91	91 160	02-DEC-08	R764231
Zinc (Zn) Individual Analytes	44		1	mg/kg	150	160	02-DEC-08	R764231
% Moisture	10.7		0.5	0/			04 DEC 00	D70000
	10.7		0.5	%			01-DEC-08	R763998
CCME PAHs	0.05			,,	0.05	0.00		
1-Methylnaphthalene	<0.05 <0.05		0.05	mg/kg	0.05	0.26	03-DEC-08	R764751
2-Methylnaphthalene Acenaphthene	<0.05 <0.05		0.05 0.05	mg/kg	0.05	0.07	03-DEC-08 03-DEC-08	R764751 R764751
Acenaphthylene	<0.05		0.05	mg/kg mg/kg	0.05	0.07	03-DEC-08	R764751
Acridine	<0.03		0.05	mg/kg	0.00	0.00	03-DEC-08	R764751
	<0.05		0.05	mg/kg	0.05	0.16	03-DEC-08	R764751
Anthracene								
Anthracene Benzo(a)anthracene	<0.05		0.05	mg/kg	0.10	0.74	03-DEC-08	R764751

^{**} analytical results for this parameter exceed criteria limits listed on this report





ALS LABORATORY GROUP CRITERIA REPORT

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Sample Details/Parameters	Result	Qualifier	D.L.	Units	Criteria Spec	ific Limits	Analyzed	Batch
L713254-3 BH11 (SS-2)								
Sampled By: CLIENT on 27-NOV-08								
Matrix: SOIL					AGRICULTURAL	ALL OTHER		
					OR OTHER		_	
Individual Analytes								
CCME PAHs								
Benzo(b)fluoranthene	< 0.05		0.05	mg/kg	0.30	0.47	03-DEC-08	R76475
Benzo(g,h,i)perylene	<0.05		0.05	mg/kg	0.20	0.68	03-DEC-08	R76475
Benzo(k)fluoranthene	< 0.05		0.05	mg/kg	0.05	0.48	03-DEC-08	R76475
Chrysene	<0.05		0.05	mg/kg	0.18	0.69	03-DEC-08	R76475
Dibenzo(ah)anthracene	<0.05		0.05	mg/kg	0.15	0.16	03-DEC-08	R76475
Fluoranthene	< 0.05		0.05	mg/kg	0.24 0.05	1.1	03-DEC-08	R76475
Fluorene	<0.05 <0.05		0.05	mg/kg	0.05	0.12 0.38	03-DEC-08	R76475
Indeno(1,2,3-cd)pyrene Naphthalene	< 0.05		0.05 0.05	mg/kg mg/kg	0.11	0.36	03-DEC-08 03-DEC-08	R76475 R76475
Phenanthrene	<0.05		0.05	mg/kg	0.19	0.69	03-DEC-08	R76475
Pyrene	<0.05		0.05	mg/kg	0.19	1.0	03-DEC-08	R76475
Quinoline	< 0.05		0.05	mg/kg			03-DEC-08	R76475
Surr: 2-Fluorobiphenyl	91		50-150	%			03-DEC-08	R76475
Surr: p-Terphenyl d14	90		52-158	%			03-DEC-08	R76475
рН	8.08		0.01	pH units			01-DEC-08	R76400
_713254-4 BH17 (SS-3)								
Sampled By: CLIENT on 27-NOV-08								
Matrix: SOIL					AGRICULTURAL OR OTHER	ALL OTHER		
F1-F4 (O.Reg.153/04)								
CCME Total Hydrocarbons								
F1 (C6-C10)	<5		5	mg/kg			04-DEC-08	
F2 (C10-C16)	<10		10	mg/kg			04-DEC-08	
F3 (C16-C34)	<50		50	mg/kg			04-DEC-08	
F4 (C34-C50)	<50		50	mg/kg			04-DEC-08	
Total Hydrocarbons (C6-C50)	<50		50	mg/kg			04-DEC-08	
Chromatogram to baseline at nC50	YES			No Unit			04-DEC-08	
Prep/Analysis Dates				No Unit			02-DEC-08	R76451
F2-F4 (O.Reg.153/04)								
Prep/Analysis Dates				No Unit			04-DEC-08	R76531
Surr: Octacosane	69		60-120	%			04-DEC-08	R76531
Regulation 153 Metals, Hg, Cr6+, Avail B								
As, Sb and Se by ICP/MS								
Antimony (Sb)	<1		1	mg/kg	1	1	02-DEC-08	R76421
Arsenic (As)	<1 <1		1	mg/kg	14 1.4	17 1.0	02-DEC-08	R76421
Selenium (Se)			1	mg/kg	1.4	1.9	02-DEC-08	R76421
Boron (B), Available	<0.1		0.1	ug/g			02-DEC-08	R76416
Chromium, Hexavalent	<2		2	mg/kg	2.5	2.5	04-DEC-08	R76516
Mercury (Hg)	<0.05		0.05	ug/g	0.16	0.23	02-DEC-08	R76429
Standard Metal Scan (ICP)	4.5							
Barium (Ba)	10 -0.5		1	mg/kg	190	210	02-DEC-08	R76423
Beryllium (Be)	<0.5		0.5	mg/kg	1.2	1.2	02-DEC-08	R76423
Cadmium (Cd)	<0.5		0.5	mg/kg	1.0	1.0	02-DEC-08	R76423

^{**} analytical results for this parameter exceed criteria limits listed on this report





ALS LABORATORY GROUP CRITERIA REPORT

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L713254-4 BH17 (SS-3) Sampled By: CLIENT on 27-NOV-08 Matrix: SOIL AGRICULTURAL OR OTHER ALL OTHER OR OTHER								05-DEC	08 13:24:4
Sampled By: CLIENT on 27-NOV-08 Matrix: SOIL AGRICULTURAL OR OTHER ALL OTHER	Sample Details/Parameters	arameters Result Qualifier D.L. Units Criteria Specific Limits		ific Limits	Analyzed	Batch			
Sampled By: CLIENT on 27-NOV-08 Matrix: SOIL	713254-4 BH17 (SS-3)								
Matrix: SOIL SOIL AGRICULTURAL OR OTHER ALL OTHER OR OTHER									
Regulation 153 Metals, Hg, Cr6+, Avail B Standard Metal Scan (ICP) Chromium (Cr) 5 1 mg/kg 19 21 02-DEC-08 R7 Cobalt (Co) 2 1 mg/kg 56 85 02-DEC-08 R7 Copper (Cu) 6 1 mg/kg 55 120 02-DEC-08 R7 Lead (Pb) 6 1 mg/kg 55 120 02-DEC-08 R7 Molybdenum (Mo) <1 1 mg/kg 2.5 2.5 02-DEC-08 R7 Nickel (Ni) 3 1 mg/kg 43 43 02-DEC-08 R7 Silver (Ag) <0.2 0.2 mg/kg 0.35 0.42 02-DEC-08 R7 Vanadium (V) 12 1 mg/kg 2.5 2.5 02-DEC-08 R7 Vanadium (V) 12 1 mg/kg 91 91 02-DEC-08 R7 Individual Analytes % Moisture 7.7 0.5 %						AGRICUII TURAI	ALL OTHER		
Standard Metal Scan (ICP) 5 1 mg/kg 67 71 02-DEC-08 R7 Cobalt (Co) 2 1 mg/kg 19 21 02-DEC-08 R7 Copper (Cu) 6 1 mg/kg 56 85 02-DEC-08 R7 Lead (Pb) 6 1 mg/kg 55 120 02-DEC-08 R7 Molybdenum (Mo) <1	IVIALITA. SOIL							_	
Standard Metal Scan (ICP) 5 1 mg/kg 67 71 02-DEC-08 R7 Cobalt (Co) 2 1 mg/kg 19 21 02-DEC-08 R7 Copper (Cu) 6 1 mg/kg 56 85 02-DEC-08 R7 Lead (Pb) 6 1 mg/kg 55 120 02-DEC-08 R7 Molybdenum (Mo) <1	Regulation 153 Metals, Hg. Cr6+, Avail B								
Chromium (Cr) 5 1 mg/kg 67 71 02-DEC-08 R7 Cobalt (Co) 2 1 mg/kg 19 21 02-DEC-08 R7 Copper (Cu) 6 1 mg/kg 56 85 02-DEC-08 R7 Lead (Pb) 6 1 mg/kg 55 120 02-DEC-08 R7 Molybdenum (Mo) <1									
Cobalt (Co) 2 1 mg/kg 19 21 02-DEC-08 R7 Copper (Cu) 6 1 mg/kg 56 85 02-DEC-08 R7 Lead (Pb) 6 1 mg/kg 55 120 02-DEC-08 R7 Molybdenum (Mo) <1		5		1	ma/ka	67	71	02 DEC 08	R764231
Copper (Cu) 6 1 mg/kg 56 85 02-DEC-08 R7 Lead (Pb) 6 1 mg/kg 55 120 02-DEC-08 R7 Molybdenum (Mo) <1		2							R764231
Lead (Pb) 6 1 mg/kg 55 120 02-DEC-08 R7 Molybdenum (Mo) <1									R764231
Molybdenum (Mo) <1									R764231
Nickel (Ni) 3 1 mg/kg 43 43 02-DEC-08 R7 Silver (Ag) <0.2									R764231
Silver (Ag) <0.2 mg/kg 0.35 0.42 02-DEC-08 R7 Thallium (TI) <1									R764231
Thallium (TI)									R764231
Vanadium (V) 12 1 mg/kg 91 91 02-DEC-08 R7 Zinc (Zn) 31 1 mg/kg 150 160 02-DEC-08 R7 Individual Analytes 7.7 0.5 % 01-DEC-08 R7									
Zinc (Zn) 31 1 mg/kg 150 160 02-DEC-08 R7									R764231
Individual Analytes 7.7 0.5 % 01-DEC-08 R7									R764231
% Moisture 7.7 0.5 % 01-DEC-08 R7		J1		ı	mg/kg	150	100	02-DEC-08	R764231
pH 8.10 0.01 pH units 01-DEC-08 R7									R763998
	рН	8.10		0.01	pH units			01-DEC-08	R764008

^{**} analytical results for this parameter exceed criteria limits listed on this report

Reference Information

5-698-17-02

Qualifier

CR-CR6-WT

ETL-TVH,TEH-CCME-WT Soil

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Sample Parameter Qualifier key listed: Description

Qualifier	Descrip	1011							
DLA Detection Limit Adjusted For required dilution									
SOL:MI	SOL:MI Surrogate recovery outside acceptable limits due to matrix interference								
Methods Liste	ed (if app	licable):							
ALS Test Code		Matrix	Test Description	Preparation Method Reference(Based On)	Analytical Method Reference(Based On)				
AS,SB,SE-3050-	MS-WT	Soil	As, Sb and Se by ICP/MS		SW846 3050B/6020A				
B-AVAIL-WT		Soil	Boron (B), Available		HW EXTR, EPA 6010B				

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.

Soil

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:

Hexavalent Chromium in Soil

CCME Total Hydrocarbons

- 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-WT	Soil	F1 (O.Reg.153/04)	MOE DECPH-E3398/CCME Tier 1
F2-F4-WT	Soil	F2-F4 (O.Reg.153/04)	MOE DECPH-E3398/CCME Tier 1
F4G-ADD-WT	Soil	F4G-SG (O.Reg.153/04)	MOE DECPH-E3398/CCME Tier 1
HG-WT	Soil	Mercury by CVAA	SW846 7470A
MET-R153-WT	Soil	Standard Metal Scan (ICP)	EPA 3050
MOISTURE-WT	Soil	% Moisture	Gravimetric: Oven Dried
PAH-CCME-WT	Soil	CCME PAHs	SW846 8270
PH-R153-WT	Soil	рН	MOEE E3137A
VOC-CCME-TABLE1-WT	Soil	Volatile Organics (153/04) Table 1	MOE-E3254

Laboratory Methods employed follow in-house procedures, which are generally based on nationally or internationally accepted methodologies.

EPA 7196

CCME CWS-PHC Dec-2000 - Pub#

Chain of Custody numbers:

69264

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 LABORATORY GROUP - WATERLOO, ONTARIO, CAN		

Reference Information

5-698-17-02

GLOSSARY OF REPORT TERMS

Surr - A surrogate is an organic compound that is similar to the target analyte(s) in chemical composition and behavior but not normally detected in environmental samples. Prior to sample processing, samples are fortified with one or more surrogate compounds. The reported surrogate recovery value provides a measure of method efficiency. The Laboratory control limits are determined under column heading D.L.

mg/kg (units) - unit of concentration based on mass, parts per million mg/L (units) - unit of concentration based on volume, parts per million

< - Less than

D.L. - Detection 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. UNLESS OTHERWISE STATED, SAMPLES ARE NOT CORRECTED FOR CLIENT FIELD BLANKS.

Although test results are generated under strict QA/QC protocols, any unsigned test reports, faxes, or emails are considered preliminary.

ALS Laboratory Group has an extensive QA/QC program where all analytical data reported is analyzed using approved referenced procedures followed by checks and reviews by senior managers and quality assurance personnel. However, since the results are obtained from chemical measurements and thus cannot be guaranteed, ALS Laboratory Group assumes no liability for the use or interpretation of the results.

ALS provides criteria information as a service to you, our customer. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. ALS recommends review of the most current version of the regulation, and assumes no responsibility for the accuracy of the criteria levels indicated.





ALS Laboratory Group Quality Control Report

Workorder: L713254 Report Date: 05-DEC-08 Page 1 of 13

Client: XCG CONSULTANTS LTD.

820 TRILLIUM DRIVE KITCHENER ON N2R 1K4

Contact: THOMAS KOLODZIEJ

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
AS,SB,SE-3050-MS-WT Batch R764211	Soil							
WG879851-2 CVS Antimony (Sb)			105		%		63-138	02-DEC-08
Arsenic (As)			119		%		63-138	02-DEC-08
Selenium (Se)			115		%		63-138	02-DEC-08
WG879815-4 DUP Antimony (Sb)		WG879815-3 <1	<1	RPD-NA	mg/kg	N/A	26	02-DEC-08
Arsenic (As)		1	1	J	mg/kg	0	4	02-DEC-08
Selenium (Se)		<1	<1	RPD-NA	mg/kg	N/A	26	02-DEC-08
WG879815-2 LCS					-			
Arsenic (As)			86		%		63-138	02-DEC-08
Selenium (Se)			78		%		63-138	02-DEC-08
WG879815-1 MB Antimony (Sb)			<1		mg/kg		1	02-DEC-08
Arsenic (As)			<1		mg/kg		1	02-DEC-08
Selenium (Se)			<1		mg/kg		1	02-DEC-08
B-AVAIL-WT	Soil							
Batch R764169								
WG879825-3 DUP Boron (B), Available		L713553-3 0.1	0.1	J	ug/g	0.0	0.4	02-DEC-08
WG879825-2 LCS Boron (B), Available			103		%		60-140	02-DEC-08
WG879825-1 MB Boron (B), Available			<0.1		ug/g		0.1	02-DEC-08
CR-CR6-WT	Soil		-					32 220 00
Batch R765163								
WG881084-3 DUP Chromium, Hexavalent		L713254-4 <2	<2	RPD-NA	mg/kg	N/A	20	04-DEC-08
WG881084-4 DUP Chromium, Hexavalent		L714136-1 <2	<2	RPD-NA	mg/kg	N/A	20	04-DEC-08
WG881084-5 DUP Chromium, Hexavalent		L714614-4 <2	<2	RPD-NA	mg/kg	N/A	20	04-DEC-08
WG881084-1 MB Chromium, Hexavalent			<2	2 (mg/kg		2	
F1-WT	Soil		\ 2		mg/ng		-	04-DEC-08
L 1-AA 1	3011							

Workorder: L713254

Report Date: 05-DEC-08

Test	Matr	ix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-WT	Soil							
Batch R7 WG879810-1 TVH: (C6-C10 /	64516 CVS No BTEX Corr	rection)	86		%		59-131	02-DEC-08
WG879192-3 TVH: (C6-C10 /	DUP No BTEX Corr	WG879192-2 rection) <5	<5	RPD-NA	mg/kg	N/A	65	02-DEC-08
WG879192-1 TVH: (C6-C10 /	MB No BTEX Corr	rection)	<5		mg/kg		5	02-DEC-08
F2-F4-WT	Soil							
Batch R7 WG880559-1	65314 CVS							
F2 (C10-C16)			96		%		80-120	04-DEC-08
F3 (C16-C34)			103		%		80-120	04-DEC-08
F4 (C34-C50)			106		%		70-130	04-DEC-08
WG879279-4 F2 (C10-C16)	DUP	L713118-2 <10	<10	RPD-NA	mg/kg	N/A	65	04-DEC-08
F3 (C16-C34)		<50	<50	RPD-NA	mg/kg	N/A	65	04-DEC-08
F4 (C34-C50)		<50	<50	RPD-NA	mg/kg	N/A	65	04-DEC-08
WG879279-2 F2 (C10-C16)	LCS		95		%		54-120	04-DEC-08
F3 (C16-C34)			98		%		60-106	04-DEC-08
F4 (C34-C50)			98		%		52-122	04-DEC-08
WG879279-3 F2 (C10-C16)	LCSD	WG879279-2 95	93		%	2.5	45	04-DEC-08
F3 (C16-C34)		98	94		%	3.5	45	04-DEC-08
F4 (C34-C50)		98	99		%	0.52	45	04-DEC-08
WG879279-1 F2 (C10-C16)	MB		<10		mg/kg		10	04-DEC-08
F3 (C16-C34)			<50		mg/kg		50	04-DEC-08
F4 (C34-C50)			<50		mg/kg		50	04-DEC-08
HG-WT	Soil							
Batch R7	64296							
WG879845-3 Mercury (Hg)	DUP	L713254-1 <0.05	<0.05	RPD-NA	ug/g	N/A	20	02-DEC-08
WG879845-2 Mercury (Hg)	LCS		89		%		70-130	02-DEC-08
WG879845-1 Mercury (Hg)	МВ		<0.05		ug/g		0.05	02-DEC-08

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Report Date: 05-DEC-08

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-R153-WT	Soil							
Batch R764231								
WG879914-2 CVS								
Barium (Ba)			104		%		80-120	02-DEC-08
Beryllium (Be)			98		%		80-120	02-DEC-08
Cadmium (Cd)			102		%		80-120	02-DEC-08
Chromium (Cr)			101		%		80-120	02-DEC-08
Cobalt (Co)			103		%		80-120	02-DEC-08
Copper (Cu)			102		%		80-120	02-DEC-08
Lead (Pb)			102		%		80-120	02-DEC-08
Molybdenum (Mo)			97		%		80-120	02-DEC-08
Nickel (Ni)			102		%		80-120	02-DEC-08
Silver (Ag)			95		%		80-120	02-DEC-08
Thallium (TI)			102		%		80-120	02-DEC-08
Vanadium (V)			93		%		80-120	02-DEC-08
Zinc (Zn)			96		%		80-120	02-DEC-08
WG879815-4 DUP		WG879815-3						
Barium (Ba)		14	14		mg/kg	0.086	20	02-DEC-08
Beryllium (Be)		<0.5	<0.5	RPD-NA	mg/kg	N/A	20	02-DEC-08
Cadmium (Cd)		<0.5	<0.5	RPD-NA	mg/kg	N/A	20	02-DEC-08
Chromium (Cr)		7	7	J	mg/kg	0	4	02-DEC-08
Cobalt (Co)		3	3	J	mg/kg	0	4	02-DEC-08
Copper (Cu)		8	8	J	mg/kg	0	4	02-DEC-08
Lead (Pb)		13	10		mg/kg	25	120	02-DEC-08
Molybdenum (Mo)		<1	<1	RPD-NA	mg/kg	N/A	20	02-DEC-08
Nickel (Ni)		5	5	J	mg/kg	0	4	02-DEC-08
Silver (Ag)		<0.2	<0.2	RPD-NA	mg/kg	N/A	20	02-DEC-08
Thallium (TI)		<1	<1	RPD-NA	mg/kg	N/A	20	02-DEC-08
Vanadium (V)		8	8	J	mg/kg	0	4	02-DEC-08
Zinc (Zn)		66	63		mg/kg	3.4	20	02-DEC-08
WG879815-2 LCS Barium (Ba)			102		%		80-120	02-DEC-08
Beryllium (Be)			96		%		80-120	02-DEC-08
Cadmium (Cd)			95		%		80-120	02-DEC-08
			55		, 0		00 120	02 02 00
Chromium (Cr)			102		%		80-120	02-DEC-08

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Report Date: 05-DEC-08

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-R153-WT		Soil							
WG879815-2	4231 LCS								
Copper (Cu)				100		%		80-120	02-DEC-08
Lead (Pb)				101		%		80-120	02-DEC-08
Nickel (Ni)				99		%		80-120	02-DEC-08
Thallium (TI)				94		%		80-120	02-DEC-08
Vanadium (V)				97		%		80-120	02-DEC-08
Zinc (Zn)				89		%		80-120	02-DEC-08
WG879815-1 Barium (Ba)	MB			<1		mg/kg		1	02-DEC-08
Beryllium (Be)				<0.5		mg/kg		0.5	02-DEC-08
Cadmium (Cd)				<0.5		mg/kg		0.5	02-DEC-08
Chromium (Cr)				<1		mg/kg		1	02-DEC-08
Cobalt (Co)				<1		mg/kg		1	02-DEC-08
Copper (Cu)				<1		mg/kg		1	02-DEC-08
Lead (Pb)				<1		mg/kg		1	02-DEC-08
Molybdenum (Mo	o)			<1		mg/kg		1	02-DEC-08
Nickel (Ni)				<1		mg/kg		1	02-DEC-08
Silver (Ag)				<0.2		mg/kg		0.2	02-DEC-08
Thallium (TI)				<1		mg/kg		1	02-DEC-08
Vanadium (V)				<1		mg/kg		1	02-DEC-08
Zinc (Zn)				<1		mg/kg		1	02-DEC-08
MOISTURE-WT		Soil							
WG879396-3	3998 DUP		L713351-6						
% Moisture			11.1	11.2		%	0.71	26	01-DEC-08
WG879396-2 % Moisture	LCS			104		%		79-120	01-DEC-08
WG879396-1 % Moisture	МВ			<0.5		%		0.5	01-DEC-08
PAH-CCME-WT		Soil							
Batch R76	4751								
	CVS			90		0/		74.407	00 DEO 60
1-Methylnaphthal				80 72		%		71-127	03-DEC-08
2-Methylnaphthal	iene					%		68-115	03-DEC-08
Acenaphthene				83		%		66-128	03-DEC-08

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-WT	Soil							
Batch R764751								
WG879812-1 CVS			00		0/			
Acenaphthylene			82		%		60-132	03-DEC-08
Acridine			113		%		69-145	03-DEC-08
Anthracene			91		%		64-123	03-DEC-08
Benzo(a)anthracene			97		%		75-134	03-DEC-08
Benzo(a)pyrene			85		%		60-135	03-DEC-08
Benzo(b)fluoranthene			79		%		67-131	03-DEC-08
Benzo(g,h,i)perylene			85		%		60-136	03-DEC-08
Benzo(k)fluoranthene			105		%		68-137	03-DEC-08
Chrysene			94		%		72-131	03-DEC-08
Dibenzo(ah)anthracene			83		%		64-133	03-DEC-08
Fluoranthene			87		%		75-124	03-DEC-08
Fluorene			84		%		75-127	03-DEC-08
Indeno(1,2,3-cd)pyrene			95		%		58-140	03-DEC-08
Naphthalene			82		%		69-122	03-DEC-08
Phenanthrene			91		%		77-126	03-DEC-08
Pyrene			87		%		76-127	03-DEC-08
Quinoline			100		%		70-120	03-DEC-08
WG879302-5 DUP 1-Methylnaphthalene		L713254-1 <0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
2-Methylnaphthalene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Acenaphthene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Acenaphthylene		<0.05	< 0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Acridine		<0.8	<0.8	RPD-NA	mg/kg	N/A	39	03-DEC-08
Anthracene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Benzo(a)anthracene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Benzo(a)pyrene		<0.02	<0.02	RPD-NA	mg/kg	N/A	65	03-DEC-08
Benzo(b)fluoranthene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Benzo(g,h,i)perylene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Benzo(k)fluoranthene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Chrysene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Dibenzo(ah)anthracene		<0.05	< 0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Fluoranthene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Fluorene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
1 10010110		30.00	~0.00	IVE D-INA	mg/ng	IN/A	00	03-DEC-00

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-WT	Soil							
Batch R764751								
WG879302-5 DUP		L713254-1	0.05					
Indeno(1,2,3-cd)pyrene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Naphthalene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Phenanthrene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Pyrene		<0.05	<0.05	RPD-NA	mg/kg	N/A	65	03-DEC-08
Quinoline		<0.05	<0.05	RPD-NA	mg/kg	N/A	39	03-DEC-08
WG879302-2 LCS 1-Methylnaphthalene			85		%		74-131	03-DEC-08
2-Methylnaphthalene			76		%		70-127	03-DEC-08
Acenaphthene			88		%		54-134	03-DEC-08
Acenaphthylene			87		%		49-136	03-DEC-08
Acridine			112		%		43-131	03-DEC-08
Anthracene			89		%		49-134	03-DEC-08
Benzo(a)anthracene			95		%		49-141	03-DEC-08
Benzo(a)pyrene			85		%		42-131	03-DEC-08
Benzo(b)fluoranthene			81		%		46-131	03-DEC-08
Benzo(g,h,i)perylene			85		%		43-126	03-DEC-08
Benzo(k)fluoranthene			100		%		48-143	03-DEC-08
Chrysene			93		%		48-129	03-DEC-08
Dibenzo(ah)anthracene			81		%		49-142	03-DEC-08
Fluoranthene			86		%		50-133	03-DEC-08
Fluorene			88		%		51-137	03-DEC-08
Indeno(1,2,3-cd)pyrene			93		%		38-134	03-DEC-08
Naphthalene			83		%		51-134	03-DEC-08
Phenanthrene			91		%		57-137	03-DEC-08
Pyrene			87		%		45-126	03-DEC-08
Quinoline			97		%		25-175	03-DEC-08
WG879302-3 LCSD		WG879302-2						
1-Methylnaphthalene		85	80		%	5.7	45	03-DEC-08
2-Methylnaphthalene		76	72		%	6.1	45	03-DEC-08
Acenaphthene		88	83		%	6.2	24	03-DEC-08
Acenaphthylene		87	82		%	5.1	45	03-DEC-08
Acridine		112	112		%	0.64	45	03-DEC-08
Anthracene		89	88		%	1.8	45	03-DEC-08

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-CCME-WT	Soil							
Batch R764751								
WG879302-3 LCSD Benzo(a)anthracene		WG879302-2 95	92		%	3.6	45	00 PEO 00
Benzo(a)pyrene		95 85	84		%	3.6 1.3	45 45	03-DEC-08
Benzo(b)fluoranthene		81	81		%	0.47	45 45	03-DEC-08 03-DEC-08
Benzo(g,h,i)perylene		85	83		%	2.6	45 45	03-DEC-08
Benzo(k)fluoranthene		100	98		%	2.6 1.7	45 45	
Chrysene		93	93		%	0.83	45 45	03-DEC-08
Dibenzo(ah)anthracene		81	79		%	2.9	45 45	03-DEC-08
Fluoranthene		86	85		%	1.5	45 45	03-DEC-08
Fluorene		88	82		%	6.2	45 45	03-DEC-08 03-DEC-08
Indeno(1,2,3-cd)pyrene		93	84		%	9.8	45 45	
Naphthalene		83	82		%	9.6 0.55	45 45	03-DEC-08
Phenanthrene		91	89		%	3.1	45 45	03-DEC-08
Pyrene		87	85		%	1.5	45 45	03-DEC-08 03-DEC-08
Quinoline		97	91		%	6.0	45 45	03-DEC-08
WG879302-1 MB		31	91		76	6.0	40	03-DEC-06
1-Methylnaphthalene			<0.05		mg/kg		0.05	03-DEC-08
2-Methylnaphthalene			< 0.05		mg/kg		0.05	03-DEC-08
Acenaphthene			< 0.05		mg/kg		0.05	03-DEC-08
Acenaphthylene			< 0.05		mg/kg		0.05	03-DEC-08
Acridine			<0.8		mg/kg		0.8	03-DEC-08
Anthracene			<0.05		mg/kg		0.05	03-DEC-08
Benzo(a)anthracene			<0.05		mg/kg		0.05	03-DEC-08
Benzo(a)pyrene			<0.02		mg/kg		0.02	03-DEC-08
Benzo(b)fluoranthene			<0.05		mg/kg		0.05	03-DEC-08
Benzo(g,h,i)perylene			<0.05		mg/kg		0.05	03-DEC-08
Benzo(k)fluoranthene			<0.05		mg/kg		0.05	03-DEC-08
Chrysene			<0.05		mg/kg		0.05	03-DEC-08
Dibenzo(ah)anthracene			<0.05		mg/kg		0.05	03-DEC-08
Fluoranthene			<0.05		mg/kg		0.05	03-DEC-08
Fluorene			<0.05		mg/kg		0.05	03-DEC-08
Indeno(1,2,3-cd)pyrene			<0.05		mg/kg		0.05	03-DEC-08
Naphthalene			<0.05		mg/kg		0.05	03-DEC-08
Phenanthrene			<0.05		mg/kg		0.05	03-DEC-08

Qualifier

Workorder: L713254

Result

Reference

Matrix

Test

Report Date: 05-DEC-08

RPD

Limit

Units

PAH-CCME-WT Soil R764751 Batch WG879302-1 MB < 0.05 0.05 Pyrene mg/kg 03-DEC-08 Quinoline < 0.05 mg/kg 0.05 03-DEC-08 PH-R153-WT Soil Batch R764008 WG879793-1 **CVS** 100 % рΗ 63-138 01-DEC-08 WG879793-2 **DUP** L713553-1 7.97 pН 7.96 pH units 0.13 26 01-DEC-08 WG879793-3 **DUP** L713574-2 рΗ 7.70 7.66 pH units 0.52 26 01-DEC-08 **VOC-CCME-TABLE1-WT** Soil R763892 Batch WG879388-1 **CVS** 1,1,1,2-Tetrachloroethane % 98 75-125 01-DEC-08 1,1,1-Trichloroethane 101 % 75-125 01-DEC-08 1,1,2,2-Tetrachloroethane 102 % 75-125 01-DEC-08 1,1,2-Trichloroethane 98 % 75-125 01-DEC-08 1,1-Dichloroethane 102 % 75-125 01-DEC-08 1,1-Dichloroethylene 102 % 75-125 01-DEC-08 100 % 1,2-Dichlorobenzene 75-125 01-DEC-08 1,2-Dichloroethane 107 % 75-125 01-DEC-08 1,2-Dichloropropane 103 % 75-125 01-DEC-08 1,3-Dichlorobenzene 102 % 75-125 01-DEC-08 1.4-Dichlorobenzene % 102 75-125 01-DEC-08 2-Hexanone 104 % 75-125 01-DEC-08 % Acetone 111 75-125 01-DEC-08 105 % Benzene 75-125 01-DEC-08 Bromodichloromethane 105 % 75-125 01-DEC-08 **Bromoform** 102 % 75-125 01-DEC-08 Bromomethane 99 % 55-145 01-DEC-08 Carbon Disulfide 102 % 75-125 01-DEC-08 Carbon tetrachloride 105 % 01-DEC-08 75-125 Chlorobenzene 102 % 75-125 01-DEC-08 Dibromochloromethane 94 75-125

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Analyzed

Workorder: L713254

Report Date: 05-DEC-08

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-CCME-TABLE1-WT	Soil							
Batch R763892								
WG879388-1 CVS					0.4			
Dibromochloromethane			94		%		75-125	01-DEC-08
Chloroethane			101		%		75-125	01-DEC-08
Chloroform			105		%		75-125	01-DEC-08
Chloromethane			87		%		75-125	01-DEC-08
cis-1,2-Dichloroethylene			99		%		75-125	01-DEC-08
cis-1,3-Dichloropropene	•		97		%		75-125	01-DEC-08
Dibromomethane			101		%		55-145	01-DEC-08
Ethyl Benzene			109		%		75-125	01-DEC-08
1,2-Dibromoethane			96		%		55-145	01-DEC-08
m+p-Xylenes			109		%		75-125	01-DEC-08
Methyl Ethyl Ketone			113		%		75-125	01-DEC-08
Methyl Isobutyl Ketone			106		%		55-145	01-DEC-08
MTBE			102		%		75-125	01-DEC-08
Dichloromethane			100		%		55-145	01-DEC-08
o-Xylene			108		%		75-125	01-DEC-08
Styrene			105		%		75-125	01-DEC-08
Tetrachloroethylene			102		%		75-125	01-DEC-08
Toluene			106		%		75-125	01-DEC-08
trans-1,2-Dichloroethyle	ene		106		%		75-125	01-DEC-08
trans-1,3-Dichloroprope	ne		97		%		75-125	01-DEC-08
Trichloroethylene			96		%		75-125	01-DEC-08
Trichlorofluoromethane			110		%		66-137	01-DEC-08
Vinyl chloride			97		%		75-125	01-DEC-08
Dichlorodifluoromethane	е		59	G	%		75-125	01-DEC-08
COMMENTS: 10% of	of analytes may e	xceed QC limits.	Analyte not p	present in related s	amples.			
WG879189-3 DUP		WG879189-2						
1,1,1,2-Tetrachloroetha	ne	<0.008	<0.008	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1,1-Trichloroethane		<0.008	<0.008	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1,2,2-Tetrachloroetha	ne	<0.004	<0.004	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1,2-Trichloroethane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1-Dichloroethane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1-Dichloroethylene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,2-Dichlorobenzene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-CCME-TABLE1-WT	Soil							
Batch R763892								
WG879189-3 DUP		WG879189-2	0.000					
1,2-Dichloroethane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,2-Dichloropropane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,3-Dichlorobenzene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,4-Dichlorobenzene 2-Hexanone		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Acetone		<0.2 <0.5	<0.2 <0.5	RPD-NA	mg/kg	N/A	39	02-DEC-08
Benzene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Bromodichloromethane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Bromoform		<0.003	<0.003	RPD-NA RPD-NA	mg/kg	N/A	39 39	02-DEC-08
Bromomethane		<0.002	<0.002		mg/kg	N/A		02-DEC-08
Carbon Disulfide		<0.003	<0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08
Carbon tetrachloride		<0.02	<0.02	RPD-NA	mg/kg	N/A	39	02-DEC-08
Chlorobenzene		<0.002	<0.002	RPD-NA	mg/kg mg/kg	N/A	39	02-DEC-08
Dibromochloromethane		<0.002	< 0.002	RPD-NA RPD-NA	• •	N/A	39	02-DEC-08
Chloroethane		<0.003	<0.003	RPD-NA	mg/kg mg/kg	N/A	39	02-DEC-08
Chloroform		<0.03	<0.006	RPD-NA	mg/kg	N/A	39	02-DEC-08
Chloromethane		<0.000	<0.000	RPD-NA	mg/kg	N/A	39	02-DEC-08
cis-1,2-Dichloroethylene	<u>.</u>	<0.03	<0.03	RPD-NA	mg/kg	N/A N/A	39 39	02-DEC-08
cis-1,3-Dichloropropene		<0.02	<0.02	RPD-NA	mg/kg	N/A	39	02-DEC-08 02-DEC-08
Dibromomethane	•	<0.003	<0.01	RPD-NA	mg/kg	N/A	39	02-DEC-08
Dichlorodifluoromethane	ح	<0.03	<0.03	RPD-NA	mg/kg	N/A	39	02-DEC-08
Ethyl Benzene	,	<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,2-Dibromoethane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
m+p-Xylenes		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Methyl Ethyl Ketone		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	02-DEC-08
Methyl Isobutyl Ketone		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	02-DEC-08
MTBE		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	02-DEC-08
Dichloromethane		<0.003	<0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08
o-Xylene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Styrene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Tetrachloroethylene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Toluene		0.003	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
trans-1,2-Dichloroethyle	ne	<0.002	<0.002	5	5 5	1 1// 1		02-DEC-08
,		-						02 020 00

Workorder: L713254 Report Date: 05-DEC-08

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-CCME-TABLE1-W	/T Soil							
Batch R76389)2							
WG879189-3 DU		WG879189-2	0.000	DDD 114		.	00	
trans-1,2-Dichloroetl		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
trans-1,3-Dichloropro	opene	<0.003	<0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08
Trichloroethylene		<0.004	<0.004	RPD-NA	mg/kg	N/A	39	02-DEC-08
Trichlorofluorometha	ane	<0.03	<0.03	RPD-NA	mg/kg	N/A	39	02-DEC-08
Vinyl chloride	_	<0.003	<0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08
WG879189-4 DU 1,1,1,2-Tetrachloroe		WG879189-2 <0.008	<0.008	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1,1-Trichloroethan	e	<0.008	<0.008	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1,2,2-Tetrachloroe	thane	<0.004	<0.004	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1,2-Trichloroethan	e	<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1-Dichloroethane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,1-Dichloroethylene)	<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,2-Dichlorobenzene)	<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,2-Dichloroethane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,2-Dichloropropane		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,3-Dichlorobenzene	;	<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
1,4-Dichlorobenzene)	<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
2-Hexanone		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	02-DEC-08
Acetone		<0.5	<0.5	RPD-NA	mg/kg	N/A	39	02-DEC-08
Benzene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Bromodichlorometha	ane	<0.005	<0.005	RPD-NA	mg/kg	N/A	39	02-DEC-08
Bromoform		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Bromomethane		<0.003	0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08
Carbon Disulfide		<0.02	<0.02	RPD-NA	mg/kg	N/A	39	02-DEC-08
Carbon tetrachloride		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Chlorobenzene		<0.002	<0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08
Dibromochlorometha	ane	<0.003	< 0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08
Chloroethane		<0.03	<0.03	RPD-NA	mg/kg	N/A	39	02-DEC-08
Chloroform		<0.006	<0.006	RPD-NA	mg/kg	N/A	39	02-DEC-08
Chloromethane		<0.03	< 0.03	RPD-NA	mg/kg	N/A	39	02-DEC-08
cis-1,2-Dichloroethyl	ene	<0.02	<0.02	RPD-NA	mg/kg	N/A	39	02-DEC-08
cis-1,3-Dichloroprop	ene	<0.003	<0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08
Dibromomethane		<0.01	<0.01	RPD-NA	mg/kg	N/A	39	02-DEC-08

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Workorder: L713254 Report Date: 05-DEC-08

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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed	
VOC-CCME-TABLE1-WT	Soil								
Batch R763892									
WG879189-4 DUP		WG879189-2							
Dichlorodifluoromethar	ne	<0.03	< 0.03	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Ethyl Benzene		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08	
1,2-Dibromoethane		<0.004	<0.004	RPD-NA	mg/kg	N/A	39	02-DEC-08	
m+p-Xylenes		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Methyl Ethyl Ketone		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Methyl Isobutyl Ketone		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	02-DEC-08	
MTBE		<0.2	<0.2	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Dichloromethane		<0.003	< 0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08	
o-Xylene		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Styrene		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Tetrachloroethylene		<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Toluene		0.003	< 0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08	
trans-1,2-Dichloroethyl	ene	<0.002	< 0.002	RPD-NA	mg/kg	N/A	39	02-DEC-08	
trans-1,3-Dichloroprop	ene	<0.003	<0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Trichloroethylene		<0.004	<0.004	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Trichlorofluoromethane	9	<0.03	<0.03	RPD-NA	mg/kg	N/A	39	02-DEC-08	
Vinyl chloride		<0.003	<0.003	RPD-NA	mg/kg	N/A	39	02-DEC-08	

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Legend:

Limit	99% Confidence Interval (Laboratory Control Limits)
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
G	QC result did not meet ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.



SUITE 400

CH2M HILL Canada Ltd.

Date Received: 26-JUL-19

ATTN: VICTORIA PETERS Report Date: 27-AUG-19 15:51 (MT)

245 CONSUMERS ROAD Version: FINAL

TORONTO ON M2J 1R3

Client Phone: 416-499-9000

Certificate of Analysis

Lab Work Order #: L2318180

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV 19 19-01

C of C Numbers: 17-20190726-1, 17-20190726-2

Legal Site Desc:

Emily Hansen Account Manager

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Summary of Guideline Exceedances

Guideline						
ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit
Ontario Reg	gulation 153/04 - April 15,	2011 Standards - T1-Soil-Res/Park/l	nst/Ind/Com/Commu Property Use			
L2318180-1	MW103-2-2.5'	Physical Tests	Conductivity	1.07	0.57	mS/cm
		Saturated Paste Extractables	SAR	18.6	2.4	SAR
L2318180-2	MW104-2.5-3'	Physical Tests	Conductivity	0.969	0.57	mS/cm
		Saturated Paste Extractables	SAR	24.0	2.4	SAR
L2318180-3	BH202-2-2.5'	Physical Tests	Conductivity	0.960	0.57	mS/cm
		Saturated Paste Extractables	SAR	26.1	2.4	SAR
L2318180-4	BH200-3.5-4.0"	Saturated Paste Extractables	SAR	7.63	2.4	SAR
L2318180-5	MW102-20-25"	Physical Tests	Conductivity	2.95	0.57	mS/cm
		Saturated Paste Extractables	SAR	94.2	2.4	SAR
L2318180-6	BH201-1-1.5'	Saturated Paste Extractables	SAR	7.34	2.4	SAR
L2318180-7	BH201-4-4.5'	Physical Tests	Conductivity	0.655	0.57	mS/cm
		Saturated Paste Extractables	SAR	22.7	2.4	SAR
L2318180-8	MW100-1.25-1.5'	Physical Tests	Conductivity	0.981	0.57	mS/cm
		Saturated Paste Extractables	SAR	8.27	2.4	SAR
		Speciated Metals	Chromium, Hexavalent	1.04	0.66	ug/g
L2318180-9	MW109-2.5-3.5'	Saturated Paste Extractables	SAR	8.80	2.4	SAR
L2318180-12	MW101-1.5-2'	Physical Tests	Conductivity	1.56	0.57	mS/cm
		Saturated Paste Extractables	SAR	16.6	2.4	SAR
		Metals	Lead (Pb)	207	120	ug/g
			Mercury (Hg)	0.889	0.27	ug/g
L2318180-13	DUP1	Saturated Paste Extractables	SAR	10.1	2.4	SAR

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



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Physical Tests - SOIL

,												
		I	_ab ID	L2318180-1	L2318180-2	L2318180-3	L2318180-4	L2318180-5	L2318180-6	L2318180-7	L2318180-8	L2318180-9
		Sample	e Date	22-JUL-19	22-JUL-19	22-JUL-19	23-JUL-19	23-JUL-19	24-JUL-19	24-JUL-19	24-JUL-19	25-JUL-19
		Sam	ple ID	MW103-2-2.5'	MW104-2.5-3'	BH202-2-2.5'	BH200-3.5-4.0'	MW102-20-25"	BH201-1-1.5'	BH201-4-4.5'	MW100-1.25- 1.5'	MW109-2.5- 3.5'
Analyte	Unit	Guide #1	Limits #2									
Conductivity	mS/cm	0.57	-	1.07	0.969	0.960	0.486	2.95	0.332	0.655	0.981	0.208
Grain Size Curve		-	-			SEE ATTACHED			SEE ATTACHED			
% Moisture	%	-	-	16.9	8.51	5.69	10.9	14.0	4.11	8.41	19.9	6.56
Moisture	%	-	-									
рН	pH units	-	-	7.52	7.96	8.12	7.44	7.93	8.11	7.98	8.12	7.83

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

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Physical Tests - SOIL

i ilyalcai reala - ooil								
			Lab ID	L2318180-10	L2318180-11	L2318180-12	L2318180-13	L2318180-14
		Sampl	e Date	25-JUL-19	25-JUL-19	26-JUL-19	23-JUL-19	26-JUL-19
		Sam	ple ID	BH206-1-2'	MW108-5-6'	MW101-1.5-2'	DUP1	TB001
Analyte	Unit	Guide #1	Limits #2					
Conductivity	mS/cm	0.57	-	0.179	0.0902	1.56	0.499	
Grain Size Curve		-	-					
% Moisture	%	-	-	4.22	4.20	10.3	10.8	<0.10
Moisture	%	-	-			10.2		
pH	pH units	-	-	8.07	8.10		7.37	

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

Job Reference: CE751900.A.CS.EV 19 19-01

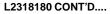
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Particle Size - SOIL

			Lab ID	L2318180-3	L2318180-6
		Sampl	e Date	22-JUL-19	24-JUL-19
		San	iple ID	BH202-2-2.5'	BH201-1-1.5
		Guide	Limits		
Analyte	Unit	#1	#2		
Gravel (4.75mm - 3in.)	%	-	-	19.9	30.1
Medium Sand (0.425mm - 2.0mm)	%	-	-	9.3	25.4
Coarse Sand (2.0mm - 4.75mm)	%	-	-	3.1	19.3
Fine Sand (0.075mm - 0.425mm)	%	-	-	30.8	11.2
Silt (0.005mm - 0.075mm)	%	-	-	24.7	5.6
Clay (<0.005mm)	%	-	-	12.4	8.6

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



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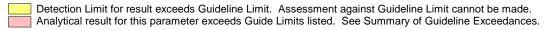


ANALYTICAL REPORT

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Cyanides - SOIL

		Sample Samp	le ID	L2318180-1 22-JUL-19 MW103-2-2.5'	L2318180-2 22-JUL-19 MW104-2.5-3'	L2318180-3 22-JUL-19 BH202-2-2.5'	L2318180-4 23-JUL-19 BH200-3.5-4.0'	L2318180-5 23-JUL-19 MW102-20-25"	L2318180-6 24-JUL-19 BH201-1-1.5'	L2318180-7 24-JUL-19 BH201-4-4.5'	L2318180-8 24-JUL-19 MW100-1.25- 1.5'	L2318180-9 25-JUL-19 MW109-2.5- 3.5'
Analyte	Unit	Guide L #1	imits. #2									
Cyanide, Weak Acid Diss	ug/g	0.051	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050



^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

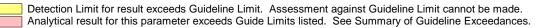
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Cyanides - SOIL

•		Sample	ab ID Date ple ID	L2318180-10 25-JUL-19 BH206-1-2'	L2318180-11 25-JUL-19 MW108-5-6'	L2318180-12 26-JUL-19 MW101-1.5-2'	L2318180-13 23-JUL-19 DUP1
Analyte	Unit	Guide #1	Limits #2				
Cyanide, Weak Acid Diss	ug/g	0.051	-	<0.050	<0.050	<0.050	<0.050



^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

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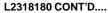
27-AUG-19 15:51 (MT)

Organic / Inorganic Carbon - SOIL

Organic / inorganic Carbon	- SOIL					
		Lab ID	L2318180-1	L2318180-5	L2318180-8	L2318180-11
		Sample Date	22-JUL-19	23-JUL-19	24-JUL-19	25-JUL-19
		Sample ID	MW103-2-2.5'	MW102-20-25"	MW100-1.25- 1.5'	MW108-5-6'
Analyte	Unit	Guide Limits #1 #2				
Fraction Organic Carbon			0.0117	0.0011	0.0047	<0.0010
			0.0119	0.0011	0.0052	< 0.0010
			0.0118	0.0010	0.0049	< 0.0010
Average Fraction Organic Carbon			0.0118	0.0011	0.0049	<0.0010
Total Organic Carbon	%		1.17	0.11	0.52	<0.10
			1.18	0.10	0.47	<0.10
			1.19	0.11	0.49	<0.10

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.





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Saturated Paste Extractables - SOIL

												
		L	ab ID	L2318180-1	L2318180-2	L2318180-3	L2318180-4	L2318180-5	L2318180-6	L2318180-7	L2318180-8	L2318180-9
		Sample	Date	22-JUL-19	22-JUL-19	22-JUL-19	23-JUL-19	23-JUL-19	24-JUL-19	24-JUL-19	24-JUL-19	25-JUL-19
		Sam	ple ID	MW103-2-2.5'	MW104-2.5-3'	BH202-2-2.5'	BH200-3.5-4.0	' MW102-20-25"	BH201-1-1.5'	BH201-4-4.5'	MW100-1.25- 1.5'	MW109-2.5- 3.5'
Analyte	Unit	Guide #1	Limits #2									
SAR	SAR	2.4	-	18.6	24.0	26.1	7.63	94.2 SAR:M	7.34	22.7	8.27	8.80
Calcium (Ca)	mg/L	-	-	8.05	1.47	2.12	9.50	3.22	3.62	1.52	19.6	1.39
Magnesium (Mg)	mg/L	-	-	2.74	1.93	1.29	4.16	< 0.50	3.50	0.66	27.2	0.57
Sodium (Na)	mg/L	-	-	239	188	195	112	614	81.7	133	241	48.8

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

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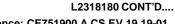
27-AUG-19 15:51 (MT)

Saturated Paste Extractables - SOIL

		Sample	Lab ID e Date iple ID	L2318180-10 25-JUL-19 BH206-1-2'	L2318180-11 25-JUL-19 MW108-5-6'	L2318180-12 26-JUL-19 MW101-1.5-2'	L2318180-13 23-JUL-19 DUP1
Analyte	Unit	Guide #1	Limits #2				
SAR	SAR	2.4	-	0.17	0.15	16.6	10.1
Calcium (Ca)	mg/L	-	-	17.7	7.84	15.9	7.59
Magnesium (Mg)	mg/L	-	-	4.74	2.49	3.61	0.98
Sodium (Na)	mg/L	-	-	3.21	1.93	281	111

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



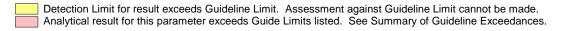
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ANALYTICAL REPORT

Metals - SOIL

WIELAIS - SOIL												
		Sample	Lab ID e Date ple ID	L2318180-1 22-JUL-19 MW103-2-2.5'	L2318180-2 22-JUL-19 MW104-2.5-3'	L2318180-3 22-JUL-19 BH202-2-2.5'	L2318180-4 23-JUL-19 BH200-3.5-4.0'	L2318180-5 23-JUL-19 ' MW102-20-25"	L2318180-6 24-JUL-19 BH201-1-1.5'	L2318180-7 24-JUL-19 BH201-4-4.5'	L2318180-8 24-JUL-19 MW100-1.25- 1.5'	L2318180-9 25-JUL-19 MW109-2.5 3.5'
Analyte	Unit	Guide #1	Limits #2									
Antimony (Sb)	ug/g	1.3	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic (As)	ug/g	18	-	3.0	2.0	1.9	3.2	2.4	3.9	1.8	6.6	1.2
Barium (Ba)	ug/g	220	-	28.6	18.7	16.0	41.4	29.7	32.0	16.8	111	12.8
Beryllium (Be)	ug/g	2.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.98	<0.50
Boron (B)	ug/g	36	-	<5.0	<5.0	<5.0	6.3	7.6	6.7	<5.0	10.5	<5.0
Boron (B), Hot Water Ext.	ug/g	36	-	0.39	<0.10	<0.10	0.26	<0.10	<0.10	<0.10	0.81	<0.10
Cadmium (Cd)	ug/g	1.2	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50
Chromium (Cr)	ug/g	70	-	15.4	9.0	7.8	15.2	12.0	11.9	7.6	29.3	5.8
Cobalt (Co)	ug/g	21	-	4.6	3.6	2.6	4.8	4.5	4.5	2.7	7.1	1.6
Copper (Cu)	ug/g	92	-	8.7	8.7	7.3	12.7	10.0	18.9	7.8	17.0	4.0
Lead (Pb)	ug/g	120	-	29.4	9.4	11.1	17.2	15.4	34.9	8.9	25.2	5.9
Mercury (Hg)	ug/g	0.27	-	0.0595	0.0061	0.0065	0.0247	0.0151	0.0192	0.0078	0.117	0.0071
Molybdenum (Mo)	ug/g	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel (Ni)	ug/g	82	-	8.8	7.0	5.4	9.8	9.7	9.3	5.7	19.0	3.8
Selenium (Se)	ug/g	1.5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver (Ag)	ug/g	0.5	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium (TI)	ug/g	1	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium (U)	ug/g	2.5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium (V)	ug/g	86	-	34.3	17.8	14.7	30.9	21.8	24.0	14.1	50.8	10.6
Zinc (Zn)	ug/g	290	-	70.3	55.1	80.9	76.7	60.5	246	70.8	155	26.6
Zinc (Zn)	ug/g	290	-	70.3	55.1	80.9	76.7	60.5	246	70.8	155	



^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

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Metals - SOIL

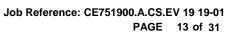
			Lab ID	L2318180-10	L2318180-11	L2318180-12	L2318180-13
			e Date	25-JUL-19	25-JUL-19	26-JUL-19	23-JUL-19
		San	iple ID	BH206-1-2'	MW108-5-6'	MW101-1.5-2'	DUP1
Analyte	Unit	Guide #1	Limits #2				
Antimony (Sb)	ug/g	1.3	-	<1.0	<1.0	<1.0	<1.0
Arsenic (As)	ug/g	18	-	2.2	2.1	5.2	3.0
Barium (Ba)	ug/g	220	-	13.0	11.2	90.7	36.5
Beryllium (Be)	ug/g	2.5	-	<0.50	<0.50	<0.50	<0.50
Boron (B)	ug/g	36	-	<5.0	<5.0	6.5	<5.0
Boron (B), Hot Water Ext.	ug/g	36	-	<0.10	<0.10	0.72	0.29
Cadmium (Cd)	ug/g	1.2	-	<0.50	<0.50	<0.50	<0.50
Chromium (Cr)	ug/g	70	-	5.9	5.8	16.8	12.9
Cobalt (Co)	ug/g	21	-	2.5	2.2	4.8	3.9
Copper (Cu)	ug/g	92	-	10.0	8.4	21.1	11.9
Lead (Pb)	ug/g	120	-	11.3	9.4	207	18.8
Mercury (Hg)	ug/g	0.27	-	0.0058	<0.0050	0.889	0.0314
Molybdenum (Mo)	ug/g	2	-	<1.0	<1.0	<1.0	<1.0
Nickel (Ni)	ug/g	82	-	5.0	4.6	9.4	8.3
Selenium (Se)	ug/g	1.5	-	<1.0	<1.0	<1.0	<1.0
Silver (Ag)	ug/g	0.5	-	<0.20	<0.20	0.21	<0.20
Thallium (TI)	ug/g	1	-	<0.50	<0.50	<0.50	<0.50
Uranium (U)	ug/g	2.5	-	<1.0	<1.0	<1.0	<1.0
Vanadium (V)	ug/g	86	-	14.4	14.5	28.4	25.9
Zinc (Zn)	ug/g	290	-	90.0	65.9	235	81.3

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



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ANALYTICAL REPORT

Speciated Metals - SOIL

opeciated inetals ooil											
		Lab	ID L2318180-1	L2318180-2	L2318180-3	L2318180-4	L2318180-5	L2318180-6	L2318180-7	L2318180-8	L2318180-9
	;	Sample Da	te 22-JUL-19	22-JUL-19	22-JUL-19	23-JUL-19	23-JUL-19	24-JUL-19	24-JUL-19	24-JUL-19	25-JUL-19
		Sample	ID MW103-2-2.5	' MW104-2.5-3'	BH202-2-2.5'	BH200-3.5-4.0"	MW102-20-25"	BH201-1-1.5'	BH201-4-4.5'	MW100-1.25- 1.5'	MW109-2.5- 3.5'
Analyte	Unit	Guide Lim #1 #2									
Chromium, Hexavalent	ug/g	0.66 -	<0.20	<0.20	<0.20	<0.20	0.23	<0.20	<0.20	1.04	<0.20
Methylmercury (as MeHg)	mg/kg										

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

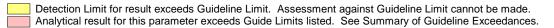
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Speciated Metals - SOIL

	I	Lab ID	L2318180-10	L2318180-11	L2318180-12	L2318180-13
	Sample	e Date	25-JUL-19	25-JUL-19	26-JUL-19	23-JUL-19
	Sam	ple ID	BH206-1-2'	MW108-5-6'	MW101-1.5-2'	DUP1
	Guide	Limits				
Unit	#1	#2				
ug/g	0.66	-	<0.20	<0.20	0.51	<0.20
					< 0.000050	
	ug/g	Sample Sam Guide Unit #1	ug/g 0.66 -	Sample Date Sample ID BH206-1-2' Guide Limits Unit #1 #2 ug/g 0.66 - <0.20	Sample Date 25-JUL-19 25-JUL-19 Sample ID BH206-1-2' MW108-5-6' Guide Limits Unit #1 #2	Sample Date Sample ID 25-JUL-19 BH206-1-2' 25-JUL-19 MW108-5-6' 26-JUL-19 MW101-1.5-2' Guide Limits Unit #1 #2 ug/g 0.66 - <0.20



^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



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ANALYTICAL REPORT

Volatile Organic Compounds - SOIL

Environmental

Volatile Organic Compound	s - 501L											
		Sample		L2318180-1 22-JUL-19 MW103-2-2.5'	L2318180-2 22-JUL-19 MW104-2.5-3'	L2318180-3 22-JUL-19 BH202-2-2.5'	L2318180-4 23-JUL-19 BH200-3.5-4.0"	L2318180-5 23-JUL-19 MW102-20-25"	L2318180-6 24-JUL-19 BH201-1-1.5'	L2318180-7 24-JUL-19 BH201-4-4.5'	L2318180-8 24-JUL-19 MW100-1.25- 1.5'	L2318180-9 25-JUL-19 MW109-2.5- 3.5'
Analyte	Unit	Guide I #1	imits- #2									
Acetone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	ug/g	0.02	-	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Bromodichloromethane	ug/g	0.05	-	< 0.050	<0.050	< 0.050	< 0.050	<0.050	<0.050	< 0.050	< 0.050	<0.050
Bromoform	ug/g	0.05	-	< 0.050	<0.050	< 0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	<0.050
Bromomethane	ug/g	0.05	-	< 0.050	<0.050	< 0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
Carbon tetrachloride	ug/g	0.05	-	< 0.050	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050
Chlorobenzene	ug/g	0.05	-	< 0.050	<0.050	< 0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
Dibromochloromethane	ug/g	0.05	-	< 0.050	<0.050	< 0.050	< 0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	ug/g	0.05	-	<0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050	<0.050
1,2-Dibromoethane	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
1,2-Dichlorobenzene	ug/g	0.05	-	<0.050	<0.050	< 0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
1,3-Dichlorobenzene	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
1,4-Dichlorobenzene	ug/g	0.05	-	<0.050	<0.050	< 0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
Dichlorodifluoromethane	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
1,1-Dichloroethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
1,2-Dichloroethane	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
1,1-Dichloroethylene	ug/g	0.05	-	<0.050	< 0.050	< 0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
cis-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050
trans-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	<0.050
Methylene Chloride	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050
1,2-Dichloropropane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	<0.050
cis-1,3-Dichloropropene	ug/g	-	-	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
trans-1,3-Dichloropropene	ug/g	-	-	<0.030	<0.030	< 0.030	< 0.030	<0.030	<0.030	<0.030	< 0.030	<0.030
1,3-Dichloropropene (cis & trans)	ug/g	0.05	-	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Ethylbenzene	ug/g	0.05	-	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
n-Hexane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MTBE	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Styrene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

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		Sample	Lab ID e Date iple ID	L2318180-10 25-JUL-19 BH206-1-2'	L2318180-11 25-JUL-19 MW108-5-6'	L2318180-12 26-JUL-19 MW101-1.5-2'	L2318180-13 23-JUL-19 DUP1	L2318180-14 26-JUL-19 TB001
Analyte	Unit	Guide #1	Limits #2					
Acetone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	ug/g	0.02	-	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Bromodichloromethane	ug/g	0.05	-	< 0.050	< 0.050	<0.050	< 0.050	< 0.050
Bromoform	ug/g	0.05	-	<0.050	<0.050	<0.050	< 0.050	<0.050
Bromomethane	ug/g	0.05	-	< 0.050	< 0.050	<0.050	< 0.050	< 0.050
Carbon tetrachloride	ug/g	0.05	-	<0.050	<0.050	<0.050	< 0.050	<0.050
Chlorobenzene	ug/g	0.05	-	< 0.050	< 0.050	<0.050	< 0.050	< 0.050
Dibromochloromethane	ug/g	0.05	-	<0.050	<0.050	<0.050	< 0.050	<0.050
Chloroform	ug/g	0.05	-	< 0.050	< 0.050	<0.050	< 0.050	< 0.050
1,2-Dibromoethane	ug/g	0.05	-	<0.050	<0.050	<0.050	< 0.050	< 0.050
1,2-Dichlorobenzene	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050
1,3-Dichlorobenzene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050
1,4-Dichlorobenzene	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	<0.050
Dichlorodifluoromethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	<0.050
1,2-Dichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050	<0.050
cis-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050
trans-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050	<0.050
Methylene Chloride	ug/g	0.05	-	<0.050	<0.050	<0.050	< 0.050	< 0.050
1,2-Dichloropropane	ug/g	0.05	-	< 0.050	< 0.050	<0.050	< 0.050	< 0.050
cis-1,3-Dichloropropene	ug/g	-	-	<0.030	<0.030	<0.030	<0.030	<0.030
trans-1,3-Dichloropropene	ug/g	-	-	<0.030	< 0.030	< 0.030	< 0.030	<0.030
1,3-Dichloropropene (cis & trans)	ug/g	0.05	-	<0.042	<0.042	<0.042	<0.042	<0.042
Ethylbenzene	ug/g	0.05	-	<0.018	<0.018	<0.018	<0.018	<0.018
n-Hexane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50
MTBE	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050
Styrene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	< 0.050

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



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Volatile Organic Compounds - SOIL

Volume Organio Compounds	COIL											
		L	ab ID	L2318180-1	L2318180-2	L2318180-3	L2318180-4	L2318180-5	L2318180-6	L2318180-7	L2318180-8	L2318180-9
		Sample			22-JUL-19	22-JUL-19	23-JUL-19	23-JUL-19	24-JUL-19	24-JUL-19	24-JUL-19	25-JUL-19
		Samp	ole ID	MW103-2-2.5'	MW104-2.5-3'	BH202-2-2.5'	BH200-3.5-4.0"	MW102-20-25"	BH201-1-1.5'	BH201-4-4.5'	MW100-1.25- 1.5'	MW109-2.5- 3.5'
Analyte	Unit	Guide L #1	₋imits #2									
1,1,1,2-Tetrachloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	< 0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050
Tetrachloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050
Toluene	ug/g	0.2	-	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1,1-Trichloroethane	ug/g	0.05	-	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	< 0.050	<0.050
1,1,2-Trichloroethane	ug/g	0.05	-	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	ug/g	0.05	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	ug/g	0.25	-	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	ug/g	0.02	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
m+p-Xylenes	ug/g	-	-	< 0.030	< 0.030	<0.030	< 0.030	<0.030	<0.030	< 0.030	< 0.030	<0.030
Xylenes (Total)	ug/g	0.05	-	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Surrogate: 4-Bromofluorobenzene	%	-	-	82.3	86.8	95.0	88.3	84.7	86.5	84.0	82.2	84.7
Surrogate: 1,4-Difluorobenzene	%	-	-	97.0	102.1	113.5	104.6	99.9	102.1	99.8	98.1	100.8

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

Job Reference: CE751900.A.CS.EV 19 19-01

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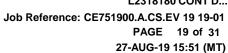
27-AUG-19 15:51 (MT)

Volatile Organic Compounds - SOIL

voiatile Organic Compound	3 OOIL							
			Lab ID	L2318180-10	L2318180-11	L2318180-12	L2318180-13	L2318180-14
		Sample	e Date	25-JUL-19	25-JUL-19	26-JUL-19	23-JUL-19	26-JUL-19
		Sam	ple ID	BH206-1-2'	MW108-5-6'	MW101-1.5-2'	DUP1	TB001
			Limits					
Analyte	Unit	#1	#2					
1,1,1,2-Tetrachloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	ug/g	0.05	-	<0.050	< 0.050	<0.050	<0.050	< 0.050
Tetrachloroethylene	ug/g	0.05	-	< 0.050	< 0.050	< 0.050	<0.050	< 0.050
Toluene	ug/g	0.2	-	<0.080	<0.080	<0.080	<0.080	<0.080
1,1,1-Trichloroethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050
1,1,2-Trichloroethane	ug/g	0.05	-	<0.050	< 0.050	<0.050	<0.050	<0.050
Trichloroethylene	ug/g	0.05	-	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	ug/g	0.25	-	<0.050	< 0.050	<0.050	<0.050	<0.050
Vinyl chloride	ug/g	0.02	-	<0.020	<0.020	<0.020	<0.020	<0.020
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	<0.020
m+p-Xylenes	ug/g	-	-	<0.030	< 0.030	<0.030	<0.030	<0.030
Xylenes (Total)	ug/g	0.05	-	<0.050	< 0.050	<0.050	<0.050	<0.050
Surrogate: 4-Bromofluorobenzene	%	-	-	89.1	91.1	89.5	90.3	98.3
Surrogate: 1,4-Difluorobenzene	%	-	-	106.8	107.4	105.2	106.2	116.5

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.





Hvdrocarbons - SOIL

riyurocarbons - SOIL												
			Lab ID	L2318180-1	L2318180-2	L2318180-3	L2318180-4	L2318180-5	L2318180-6	L2318180-7	L2318180-8	L2318180-9
		Sample	e Date	22-JUL-19	22-JUL-19	22-JUL-19	23-JUL-19	23-JUL-19	24-JUL-19	24-JUL-19	24-JUL-19	25-JUL-19
		Sam	ple ID	MW103-2-2.5'	MW104-2.5-3'	BH202-2-2.5'	BH200-3.5-4.0'	' MW102-20-25"	BH201-1-1.5'	BH201-4-4.5'	MW100-1.25- 1.5'	MW109-2.5- 3.5'
Analyte	Unit	Guide #1	Limits #2									
F1 (C6-C10)	ug/g	25	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	ug/g	25	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	ug/g	10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-Naphth	ug/g	-	-	<10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	ug/g	240	-	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3-PAH	ug/g	-	-	<50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	ug/g	120	-	<50	<50	<50	<50	<50	<50	<50	<50	<50
Total Hydrocarbons (C6-C50)	ug/g	-	-	<72	<72	<72	<72	<72	<72	<72	<72	<72
Chrom. to baseline at nC50		-	-	YES	YES	YES	YES	YES	YES	YES	YES	YES
Surrogate: 2-Bromobenzotrifluoride	%	-	-	76.2	74.3	83.4	73.1	76.0	83.7	70.6	74.7	74.1
Surrogate: 3,4-Dichlorotoluene	%	-	-	76.7	84.5	81.0	74.1	75.8	79.4	74.5	69.3	76.1

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

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Hydrocarbons - SOIL

Hydrocarbons - SOIL							
			Lab ID	L2318180-10	L2318180-11	L2318180-12	L2318180-13
		Sampl	e Date	25-JUL-19	25-JUL-19	26-JUL-19	23-JUL-19
		San	ple ID	BH206-1-2'	MW108-5-6'	MW101-1.5-2'	DUP1
Analyte	Unit	Guide #1	Limits #2				
F1 (C6-C10)	ug/g	25	-	<5.0	<5.0	<5.0	<5.0
F1-BTEX	ug/g	25	-	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	ug/g	10	-	<10	<10	<10	<10
F2-Naphth	ug/g	-	-	<10	<10	<10	<10
F3 (C16-C34)	ug/g	240	-	<50	<50	<50	<50
F3-PAH	ug/g	-	-	<50	<50	<50	<50
F4 (C34-C50)	ug/g	120	-	<50	<50	<50	<50
Total Hydrocarbons (C6-C50)	ug/g	-	-	<72	<72	<72	<72
Chrom. to baseline at nC50		-	-	YES	YES	YES	YES
Surrogate: 2-Bromobenzotrifluoride	%	-	-	69.9	87.0	91.0	88.5
Surrogate: 3,4-Dichlorotoluene	%	-	-	70.6	64.6	78.3	77.9

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



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Polycyclic Aromatic Hydrocarbons - SOIL

			ab ID	L2318180-1	L2318180-2	L2318180-3	L2318180-4	L2318180-5	L2318180-6	L2318180-7	L2318180-8	L2318180-9
		Sample		22-JUL-19	22-JUL-19	22-JUL-19	23-JUL-19	23-JUL-19	24-JUL-19	24-JUL-19	24-JUL-19	25-JUL-19
		Sam	ple ID	MW103-2-2.5'	MW104-2.5-3'	BH202-2-2.5'	BH200-3.5-4.0"	MW102-20-25"	BH201-1-1.5'	BH201-4-4.5'	MW100-1.25- 1.5'	MW109-2.5- 3.5'
Analyte	Unit	Guide I #1	Limits #2									
Acenaphthene	ug/g	0.072	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	ug/g	0.093	-	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	ug/g	0.16	-	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
Benzo(a)anthracene	ug/g	0.36	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050
Benzo(a)pyrene	ug/g	0.3	-	<0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
Benzo(b)fluoranthene	ug/g	0.47	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050
Benzo(g,h,i)perylene	ug/g	0.68	-	<0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
Benzo(k)fluoranthene	ug/g	0.48	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050
Chrysene	ug/g	2.8	-	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050
Dibenzo(ah)anthracene	ug/g	0.1	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050
Fluoranthene	ug/g	0.56	-	<0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
Fluorene	ug/g	0.12	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050
Indeno(1,2,3-cd)pyrene	ug/g	0.23	-	<0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050
1+2-Methylnaphthalenes	ug/g	0.59	-	<0.042	<0.042	<0.042	<0.042	< 0.042	<0.042	< 0.042	<0.042	<0.042
1-Methylnaphthalene	ug/g	0.59	-	<0.030	<0.030	< 0.030	<0.030	<0.030	<0.030	< 0.030	<0.030	<0.030
2-Methylnaphthalene	ug/g	0.59	-	< 0.030	< 0.030	<0.030	<0.030	<0.030	<0.030	< 0.030	< 0.030	<0.030
Naphthalene	ug/g	0.09	-	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	ug/g	0.69	-	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046
Pyrene	ug/g	1	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Surrogate: 2-Fluorobiphenyl	%	-	-	98.9	94.9	107.4	96.1	97.1	103.4	95.2	94.4	95.7
Surrogate: p-Terphenyl d14	%	-	-	91.9	85.6	94.1	89.0	87.1	90.9	84.1	89.6	84.8

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



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Polycyclic Aromatic Hydrocarbons - SOIL

 Lab ID
 L2318180-10
 L2318180-11
 L2318180-12
 L2318180-13

 Sample Date
 25-JUL-19
 25-JUL-19
 26-JUL-19
 23-JUL-19

 Sample ID
 BH206-1-2'
 MW108-5-6'
 MW101-1.5-2'
 DUP1

Amalista	Unit	Guide #1	Limits #2				
Analyte	- O.I.I.	π.	# _				
Acenaphthene	ug/g	0.072	-	<0.050	<0.050	<0.050	< 0.050
Acenaphthylene	ug/g	0.093	-	<0.050	<0.050	< 0.050	< 0.050
Anthracene	ug/g	0.16	-	<0.050	<0.050	< 0.050	< 0.050
Benzo(a)anthracene	ug/g	0.36	-	< 0.050	< 0.050	0.095	< 0.050
Benzo(a)pyrene	ug/g	0.3	-	< 0.050	< 0.050	0.093	< 0.050
Benzo(b)fluoranthene	ug/g	0.47	-	<0.050	< 0.050	0.153	< 0.050
Benzo(g,h,i)perylene	ug/g	0.68	-	<0.050	< 0.050	0.110	< 0.050
Benzo(k)fluoranthene	ug/g	0.48	-	<0.050	< 0.050	< 0.050	< 0.050
Chrysene	ug/g	2.8	-	<0.050	< 0.050	0.107	< 0.050
Dibenzo(ah)anthracene	ug/g	0.1	-	<0.050	< 0.050	< 0.050	< 0.050
Fluoranthene	ug/g	0.56	-	<0.050	<0.050	0.185	< 0.050
Fluorene	ug/g	0.12	-	<0.050	< 0.050	< 0.050	< 0.050
Indeno(1,2,3-cd)pyrene	ug/g	0.23	-	<0.050	< 0.050	0.084	< 0.050
1+2-Methylnaphthalenes	ug/g	0.59	-	<0.042	< 0.042	<0.042	<0.042
1-Methylnaphthalene	ug/g	0.59	-	<0.030	< 0.030	< 0.030	<0.030
2-Methylnaphthalene	ug/g	0.59	-	<0.030	< 0.030	< 0.030	< 0.030
Naphthalene	ug/g	0.09	-	<0.013	< 0.013	<0.013	<0.013
Phenanthrene	ug/g	0.69	-	<0.046	<0.046	0.119	<0.046
Pyrene	ug/g	1	-	<0.050	< 0.050	0.178	<0.050
Surrogate: 2-Fluorobiphenyl	%	-	-	95.9	99.8	97.9	97.5
Surrogate: p-Terphenyl d14	%	-	-	86.1	89.0	94.3	84.9

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

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Semi-Volatile Organics - SOIL

Lab ID L2318180-2
Sample Date 22-JUL-19
Sample ID MW104-2.5-3'

		Guide l	Limits	
Analyte	Unit	#1	#2	
Biphenyl	ug/g	0.05	-	<0.050
4-Chloroaniline	ug/g	0.5	-	<0.10
Bis(2-chloroethyl)ether	ug/g	0.5	-	<0.10
Bis(2-chloroisopropyl)ether	ug/g	0.5	-	<0.10
3,3'-Dichlorobenzidine	ug/g	1	-	<0.10
Diethylphthalate	ug/g	0.5	-	<0.10
Dimethylphthalate	ug/g	0.5	-	<0.10
2,4-Dimethylphenol	ug/g	0.2	-	<0.10
2,4-Dinitrophenol	ug/g	2	-	<1.0
2,4-Dinitrotoluene	ug/g	-	-	<0.10
2,6-Dinitrotoluene	ug/g	-	-	<0.10
2,4+2,6-Dinitrotoluene	ug/g	0.5	-	<0.14
Bis(2-ethylhexyl)phthalate	ug/g	5	-	<0.10
Phenol	ug/g	0.5	-	<0.10
1,2,4-Trichlorobenzene	ug/g	0.05	-	<0.050
Surrogate: 2-Fluorobiphenyl	%	-	-	87.5
Surrogate: Nitrobenzene d5	%	-	-	91.4
Surrogate: Phenol d5	%	-	-	99.3
Surrogate: p-Terphenyl d14	%	-	-	113.1
Surrogate: 2,4,6-Tribromophenol	%	-	-	89.1

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

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Polychlorinated Biphenyls - SOIL

		ı	Lab ID	L2318180-4	L2318180-13
				23-JUL-19	23-JUL-19
		Sam	ple ID	BH200-3.5-4.0"	DUP1
Analyte	Unit	Guide #1	Limits #2		
Aroclor 1242	ug/g	-	-	<0.010	<0.010
Aroclor 1248	ug/g	-	-	<0.010	<0.010
Aroclor 1254	ug/g	-	-	<0.010	<0.010
Aroclor 1260	ug/g	-	-	<0.010	<0.010
Total PCBs	ug/g	0.3	-	<0.020	<0.020
Surrogate: d14-Terphenyl	%	-	-	93.5	91.8

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

Job Reference: CE751900.A.CS.EV 19 19-01

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Dioxins and Furans - SOIL

Dioxins and Furans - SOIL					
			Lab ID	L2318180-9	L2318180-11
		Sampl		25-JUL-19	25-JUL-19
		Sam	iple ID	MW109-2.5- 3.5'	MW108-5-6'
				0.0	
		Guido	Limits		
Analyte	Unit	#1	#2		
2,3,7,8-TCDD	pg/g	-	-	<0.025 ^[U]	<0.022 ^[U]
1,2,3,7,8-PeCDD	pg/g	-	-	<0.017 ^[U]	<0.023 ^[U]
1,2,3,4,7,8-HxCDD	pg/g	-	-	<0.027 ^[U]	<0.021 ^[U]
1,2,3,6,7,8-HxCDD	pg/g	-	-	0.040 M,J	0.023 M,J,R
1,2,3,7,8,9-HxCDD	pg/g	-	-	<0.026 ^[U]	<0.020 ^[U]
1,2,3,4,6,7,8-HpCDD	pg/g	-	-	0.808 ^[J]	0.133 ^[J]
OCDD	pg/g	-	-	7.30	1.06 J,B
Total-TCDD	pg/g	-	-	0.058	<0.022 ^[U]
Total TCDD # Homologues		-	-	1	0
Total-PeCDD	pg/g	-	-	<0.017 ^[U]	<0.023 ^[U]
Total PeCDD # Homologues		-	=	0	0
Total-HxCDD	pg/g	-	-	0.111	0.051
Total HxCDD # Homologues		-	=	2	1
Total-HpCDD	pg/g	-	-	1.48	0.247
Total HpCDD # Homologues		-	-	2	2
2,3,7,8-TCDF	pg/g	-	-	< 0.024 ^[U]	<0.021 ^[U]
1,2,3,7,8-PeCDF	pg/g	-	-	< 0.024 ^[U]	<0.023 ^[U]
2,3,4,7,8-PeCDF	pg/g	-	-	0.024 M,J,R	<0.018 ^[U]
1,2,3,4,7,8-HxCDF	pg/g	-	-	<0.027 ^[U]	<0.018 ^[U]
1,2,3,6,7,8-HxCDF	pg/g	-	-	<0.027 ^[U]	<0.019 ^[U]
1,2,3,7,8,9-HxCDF	pg/g	-	-	<0.036 ^[U]	< 0.025 M,J,R
2,3,4,6,7,8-HxCDF	pg/g	-	-	< 0.026 M,U	<0.018 ^[U]
1,2,3,4,6,7,8-HpCDF	pg/g	-	-	0.290 J,R	0.068 M,J,R
1,2,3,4,7,8,9-HpCDF	pg/g	-	-	<0.020 ^[U]	<0.019 ^[U]
OCDF	pg/g	-	-	0.862 ^[J]	0.175 ^[J]
Total-TCDF	pg/g	-	-	<0.024 ^[U]	<0.021 ^[U]
Total TCDF # Homologues		-	-	0	0
Total-PeCDF	pg/g	-	-	0.040	<0.023 ^[U]
Total PeCDF # Homologues		-	-	1	0
Total-HxCDF	pg/g	-	-	0.124	<0.025 ^[U]

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2318180 CONT'D....

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Dioxins and Furans - SOIL

Dioxins and Furans - SOIL						
		Sampl	Lab ID le Date nple ID	L2318180-9 25-JUL-19 MW109-2.5- 3.5'	L2318180-11 25-JUL-19 MW108-5-6'	
Analyte	Unit	Guide #1	Limits #2			
Total HxCDF # Homologues		-	-	1	0	
Total-HpCDF	pg/g	-	-	0.622	0.045	
Total HpCDF # Homologues		-	-	1	1	
Surrogate: 13C12-2,3,7,8-TCDD	%	-	-	92.0	97.0	
Surrogate: 13C12-1,2,3,7,8-PeCDD	%	-	-	80.0	76.0	
Surrogate: 13C12-1,2,3,4,7,8-HxCDD	%	-	-	63.0	63.0	
Surrogate: 13C12-1,2,3,6,7,8-HxCDD	%	-	-	74.0	73.0	
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDD	%	-	-	65.0	63.0	
Surrogate: 13C12-OCDD	%	-	-	48.0	46.0	
Surrogate: 13C12-2,3,7,8-TCDF	%	-	-	73.0	73.0	
Surrogate: 13C12-1,2,3,7,8-PeCDF	%	-	-	78.0	74.0	
Surrogate: 13C12-2,3,4,7,8-PeCDF	%	-	-	79.0	73.0	
Surrogate: 13C12-1,2,3,4,7,8-HxCDF	%	-	-	61.0	65.0	
Surrogate: 13C12-1,2,3,6,7,8-HxCDF	%	-	-	69.0	72.0	
Surrogate: 13C12-2,3,4,6,7,8-HxCDF	%	-	-	67.0	71.0	
Surrogate: 13C12-1,2,3,7,8,9-HxCDF	%	-	-	63.0	64.0	
Surrogate: 13C12-1,2,3,4,6,7,8-HpCDF	%	-	-	61.0	59.0	
Surrogate: 13C12-1,2,3,4,7,8,9-HpCDF	%	-	-	68.0	67.0	
Surrogate: 37Cl4-2,3,7,8-TCDD (Cleanup)	%	-	-	83.0	84.0	
Lower Bound PCDD/F TEQ (WHO 2005)	pg/g	-	-	0.0146	0.00170	
Mid Point PCDD/F TEQ (WHO 2005)	pg/g	-	-	0.0558	0.0387	
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	-	-	0.0869	0.0702	
Upper Bound PCDD/F TEQ (WHO 2005)	pg/g	-	-	0.0869	0.07	

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.

Qualifiers for Individual Parameters Listed:

Qualifier	Description
[U]	The analyte was not detected above the EDL.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
[J]	The analyte was detected below the calibrated range but above the EDL.
SAR:M	Reported SAR represents a maximum value. Actual SAR may be lower if both Ca and Mg were detectable.
J,R	The analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
J,B	The analyte was detected below the calibrated range but above the EDL, and was detected in the Method Blank at >10% of the sample concentration.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is

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an estimated maximum.

M,J A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
625-511-WT	Soil	ABN-O.Reg 153/04 (July 2011)	SW846 8270 (511)

Soil and sediment samples are dried by mixing with a desiccant prior to extraction. The extracts are dried, concentrated and exchanged into a solvent and analyzed by GC/MS. Depending on the analytical GC/MS column used benzo(j)fluoranthene may chromatographically co-elute with benzo(b)fluoranthene or benzo(k)fluoranthene.

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).

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).

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

The sample is extracted with a strong base for 16 hours, and then 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).

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).

DINITROTOL-CALC-WTSoilABN-Calculated ParametersSW846 8270DX-R511-HRMS-BUSoilDioxins and FuransUSEPA 1613BEC-WTSoilConductivity (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 CCME CWS-PHC, Pub #1310, Dec 2001-S

Parameters

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.

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Methods Listed (if applicable):

ALS Test Code Matrix Test Description Method Reference**

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), 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-sq 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-sq: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
- 6. Where both F4 (C34-C50) and F4G-sq are reported for a sample, the larger of the two values is used for comparison against the relevant CCME guideline for F4.
- 7. F4G-sq 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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

GRAIN SIZE-HYD-WT Soil Grain Size by Hydrometer ASTM D422-63

Particle size curve is generated from dry sieving (particles > 2 mm), wet sieving (particles 2 mm-75 um and hydrometer readings (particles < 75 um)

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).

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Methods Listed (if applicable):

ALS Test Code Matrix Test Description Method Reference**

MEHG-GCAF-VA Soil Methylmercury in Soil by GCAFS DeWild et al. (2004)

This method follows procedures published by DeWild, Olund, Olsen and Tate (2004) for the US Geological Survey (Techniques and Methods 5A-7). Samples are leached with an acidic copper sulphate solution to solubilize methylmercury for inorganic complexes. The methylmercury is then extracted into dichloromethane and then an aliquot is back extracted into ultra-pure water. The extract is analyzed by aqueous phase ethylation, purge and trap, desorption and GC separation. The separated species are then pyrolized to elemental Hg and quantified by cold vapour atomic flourescence spectroscopy. Results are reported "as MeHg".

MET-200.2-CCMS-WT Soil Metals in Soil by CRC ICPMS EPA 200.2/6020A (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 AI, Ba, Be, Cr, S, Sr, Ti, TI, 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-INT-SVOC-BU Solid % Moisture - Internal Use ASTM METHOD D2974-00

MOISTURE-VA Soil Moisture content CCME PHC in Soil - Tier 1 (mod)

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of two hours.

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 technique 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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PCB-511-WT Soil PCB-O.Reg 153/04 (July 2011) SW846 3510/8082

An aliquot of a solid sample is extracted with a solvent, extract is cleaned up and analyzed on the 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).

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).

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).

TOC-R511-WT

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Methods Listed (if applicable):

ALS Test Code Matrix Test Description Method Reference**

TOC & FOC-O.Reg 153/04 (July 2011) CARTER 21.3.2

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).

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), 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:

17-20190726-1 17-20190726-2

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
BU	ALS ENVIRONMENTAL - BURLINGTON, ONTARIO, CANADA
VA	ALS ENVIRONMENTAL - VANCOLIVER BRITISH COLLIMBIA 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.



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Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
625-511-WT	Soil							
Batch R47343	68							
WG3118993-7 DU		WG3118993-			,			
1,2,4-Trichlorobenze	ne	<0.10	<0.10	RPD-NA	ug/g	N/A	40	01-AUG-19
2,4-Dimethylphenol		<0.20	<0.20	RPD-NA	ug/g	N/A	40	01-AUG-19
2,4-Dinitrophenol		<2.0	<2.0	RPD-NA	ug/g	N/A	40	01-AUG-19
2,4-Dinitrotoluene		<0.20	<0.20	RPD-NA	ug/g	N/A	40	01-AUG-19
2,6-Dinitrotoluene		<0.20	<0.20	RPD-NA	ug/g	N/A	40	01-AUG-19
3,3'-Dichlorobenzidin	ie	<0.20	<0.20	RPD-NA	ug/g	N/A	40	01-AUG-19
4-Chloroaniline		<0.20	<0.20	RPD-NA	ug/g	N/A	40	01-AUG-19
Biphenyl		<0.10	<0.10	RPD-NA	ug/g	N/A	40	01-AUG-19
Bis(2-chloroethyl)eth	er	<0.20	<0.20	RPD-NA	ug/g	N/A	40	01-AUG-19
Bis(2-chloroisopropyl	l)ether	<0.20	<0.20	RPD-NA	ug/g	N/A	40	01-AUG-19
Bis(2-ethylhexyl)phth	alate	<10	<10	RPD-NA	ug/g	N/A	40	01-AUG-19
Diethylphthalate		<0.20	<0.20	RPD-NA	ug/g	N/A	40	01-AUG-19
Dimethylphthalate		<0.20	<0.20	RPD-NA	ug/g	N/A	40	01-AUG-19
Phenol		<5.0	<5.0	RPD-NA	ug/g	N/A	40	01-AUG-19
WG3118993-2 LC								
1,2,4-Trichlorobenze	ne		86.9		%		50-140	31-JUL-19
2,4-Dimethylphenol			116.7		%		30-130	31-JUL-19
2,4-Dinitrophenol			116.5		%		30-130	31-JUL-19
2,4-Dinitrotoluene			99.7		%		50-140	31-JUL-19
2,6-Dinitrotoluene			98.0		%		50-140	31-JUL-19
3,3'-Dichlorobenzidin	e		96.0		%		30-130	31-JUL-19
4-Chloroaniline			98.9		%		30-130	31-JUL-19
Biphenyl			97.5		%		50-140	31-JUL-19
Bis(2-chloroethyl)eth			96.1		%		50-140	31-JUL-19
Bis(2-chloroisopropyl			94.1		%		50-140	31-JUL-19
Bis(2-ethylhexyl)phth	alate		110.2		%		50-140	31-JUL-19
Diethylphthalate			100.7		%		50-140	31-JUL-19
Dimethylphthalate			101.2		%		50-140	31-JUL-19
Phenol			115.9		%		30-130	31-JUL-19
WG3118993-1 MB 1,2,4-Trichlorobenze			<0.050		ug/g		0.05	31-JUL-19
2,4-Dimethylphenol			<0.10		ug/g		0.1	31-JUL-19
2,4-Dinitrophenol			<1.0		ug/g		1	31-JUL-19
							0.1	· -



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Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

Se2-511-WT Se3-511-WT R473436 WG33118933-1 MIS 2,4-Dinitrolouene <0.10	Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
WG3118993-1 MB WG3118993-1 MB Ug/g 0.1 31-JUL-19 2.4-Dinitrotoluene <0.10 ug/g 0.1 31-JUL-19 3.3-Dichlorobenzidine <0.10 ug/g 0.1 31-JUL-19 4-Chloroeniline <0.050 ug/g 0.1 31-JUL-19 Biphenyl <0.050 ug/g 0.1 31-JUL-19 Bis(2-chloroethyl)ether <0.10 ug/g 0.1 31-JUL-19 Bis(2-chlorospopyl)ether <0.10 ug/g 0.1 31-JUL-19 Bis(2-chlyihex/l)phthalate <0.10 ug/g 0.1 31-JUL-19 Diethylphthalate <0.10 ug/g 0.1 31-JUL-19 Diethylphthalate <0.10 ug/g 0.1 31-JUL-19 Diethylphthalate <0.10 ug/g 0.1 31-JUL-19 Surrogate: 2-Fluorobiphenyl 56.6 % 50-140 31-JUL-19 Surrogate: 2-Fluorobiphenyl 56.6 % 50-140 31-JUL-19 Surrogate: 2-Fluorobiphenyl 56.6 %	625-511-WT	Soil							
2,4-Dinitrotoluene <0.10 ug/g 0.1 31-JUL-19 2,6-Dinitrotoluene <0.10 ug/g 0.1 31-JUL-19 3,3-Dichlorobenzidine <0.10 ug/g 0.1 31-JUL-19 4-Chloroaniline <0.10 ug/g 0.1 31-JUL-19 Bis(2-chloroethyl)ether <0.10 ug/g 0.1 31-JUL-19 Bis(2-chloroispropyl)ether <0.10 ug/g 0.1 31-JUL-19 Bis(2-chloroispropyl)ether <0.10 ug/g 0.1 31-JUL-19 Diethylphthalate <0.10 ug/g 0.1 31-JUL-19 Diethylphthalate <0.10 ug/g 0.1 31-JUL-19 Dimethylphthalate <0.10 ug/g 0.1 31-JUL-19 Surrogate: Z-Fluorobiphenyl 56.6 % 50-140 31-JUL-19 Surrogate: Z-fluorobiphenyl 56.6 % 50-140 31-JUL-19 Surrogate: Yelnol d5 62.1 % 50-140 31-JUL-19 Surrogate: Nitrobarcane d5 82.1	Batch R473	4368							
3,3-Dichlorobenzidine		ИВ		<0.10		ug/g		0.1	31-JUL-19
## 4-Chloroaniline <0.10 ug/g 0.1 31-JUL-19	2,6-Dinitrotoluene			<0.10		ug/g		0.1	
Biphenyl	3,3'-Dichlorobenzio	dine		<0.10		ug/g		0.1	31-JUL-19
Bis(2-chloroethyl)ether <0.10	4-Chloroaniline			<0.10		ug/g		0.1	31-JUL-19
Bis(2-chloroisopropyl)ether	Biphenyl			< 0.050		ug/g		0.05	31-JUL-19
Bis(2-ethylhexyl)phthalate <0.10	Bis(2-chloroethyl)e	ether		<0.10		ug/g		0.1	31-JUL-19
Diethylphthalate <0.10	Bis(2-chloroisopro	pyl)ether		<0.10		ug/g		0.1	31-JUL-19
Dimethylphthalate <0.10	Bis(2-ethylhexyl)ph	hthalate		<0.10		ug/g		0.1	31-JUL-19
Phenol <0.10 ug/g 0.1 31-Jul19 Surrogate: 2-Fluorobiphenyl 56.6 % 50-140 31-Jul19 Surrogate: 2,4,6-Tribromophenol 92.8 % 50-140 31-Jul19 Surrogate: Nitrobenzene d5 82.1 % 50-140 31-Jul19 Surrogate: P-Terphenyl d14 126.1 % 50-140 31-Jul19 Surrogate: Phenol d5 103.0 % 30-130 31-Jul19 WG3118993-8 1 0.0 % 50-140 01-AUG-19 2,4-Dinitroblomenzene 81.0 % 50-140 01-AUG-19 2,4-Dinitroblenel 90.7 % 30-140 01-AUG-19 2,6-Dinitroble	Diethylphthalate			<0.10		ug/g		0.1	31-JUL-19
Surrogate: 2-Fluorobiphenyl 56.6 % 50-140 31-JUL-19 Surrogate: 2,4,6-Tribromophenol 92.8 % 50-140 31-JUL-19 Surrogate: Nitrobenzene d5 82.1 % 50-140 31-JUL-19 Surrogate: P-Terphenyl d14 126.1 % 50-140 31-JUL-19 Surrogate: Phenol d5 103.0 % 30-130 31-JUL-19 WG3118993-8 MS WG3118993-6 WG3118993-6 WG3118993-6 WG3118993-6 WG3118993-6 WG3118993-6 WG3118993-6 UG-14UG-19 9 9 9 9 1,2,4-Trichlorobenzene 81.0 % 50-140 01-AUG-19 9 1,2,4-Trichlorobenzene 81.0 % 50-140 01-AUG-19 9 1,2,4-Trichlorobenzene 81.0 % 30-150 01-AUG-19 1,2,4-Trichlorobenzene 81.0 <t< td=""><td>Dimethylphthalate</td><td></td><td></td><td><0.10</td><td></td><td>ug/g</td><td></td><td>0.1</td><td>31-JUL-19</td></t<>	Dimethylphthalate			<0.10		ug/g		0.1	31-JUL-19
Surrogate: 2,4,6-Tribromophenol 92.8 % 50-140 31-JUL-19 Surrogate: Nitrobenzene d5 82.1 % 50-140 31-JUL-19 Surrogate: P-Terphenyl d14 126.1 % 50-140 31-JUL-19 Surrogate: Phenol d5 103.0 % 30-130 31-JUL-19 WG3118993-8 MS WG3118993-6 WG3118993-6 WG3118993-6 WG3118993-6 S0-140 01-AUG-19 2,4-Dinethylphenol 97.5 % 30-150 01-AUG-19 2,4-Dinitrophenol 105.7 % 30-150 01-AUG-19 2,4-Dinitrotoluene 90.7 % 30-150 01-AUG-19 2,6-Dinitrotoluene 90.7 % 50-140 01-AUG-19 2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 3,3'-Dichlorobenzidine 82.3 % 30-130 01-AUG-19 3,3'-Dichlorobenzidine 82.3 % 50-140 01-AUG-19 <td< td=""><td>Phenol</td><td></td><td></td><td><0.10</td><td></td><td>ug/g</td><td></td><td>0.1</td><td>31-JUL-19</td></td<>	Phenol			<0.10		ug/g		0.1	31-JUL-19
Surrogate: Nitrobenzene d5 82.1 % 50-140 31-JUL-19 Surrogate: p-Terphenyl d14 126.1 % 50-140 31-JUL-19 Surrogate: Phenol d5 103.0 % 30-130 31-JUL-19 WG3118993-8 MS WG3118993-6 WG3118993-8 WG3118993-6 1.2.4-Trichlorobenzene 81.0 % 50-140 01-AUG-19 2,4-Dinitrothenol 97.5 % 30-150 01-AUG-19 2,4-Dinitrotoluene 90.7 % 30-150 01-AUG-19 2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Biphenyl 88.7 % 50-140 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % <td< td=""><td>Surrogate: 2-Fluor</td><td>obiphenyl</td><td></td><td>56.6</td><td></td><td>%</td><td></td><td>50-140</td><td>31-JUL-19</td></td<>	Surrogate: 2-Fluor	obiphenyl		56.6		%		50-140	31-JUL-19
Surrogate: p-Terphenyl d14 126.1 % 50-140 31-JUL-19 Surrogate: Phenol d5 103.0 % 30-130 31-JUL-19 WG3118993-8 MS WG3118993-6 WG3118993-6 WG3118993-6 WG3118993-6 1,2,4-Trichlorobenzene 81.0 % 50-140 01-AUG-19 2,4-Dimethylphenol 97.5 % 30-150 01-AUG-19 2,4-Dinitrotoluene 90.7 % 50-140 01-AUG-19 2,4-Dinitrotoluene 90.7 % 50-140 01-AUG-19 2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Dimethylphthalate 9	Surrogate: 2,4,6-T	ribromophenol		92.8		%		50-140	31-JUL-19
Surrogate: Phenol d5 103.0 % 30-130 31-JUL-19 WG3118993-8 MS WG3118993-6 1.2.4-Trichlorobenzene 81.0 % 50-140 01-AUG-19 2.4-Dimethylphenol 97.5 % 30-150 01-AUG-19 2.4-Dinitrophenol 105.7 % 30-150 01-AUG-19 2.4-Dinitrotoluene 90.7 % 50-140 01-AUG-19 2.6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3.3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	Surrogate: Nitrobe	enzene d5		82.1		%		50-140	31-JUL-19
WG3118993-8 MS WG3118993-6 1,2,4-Trichlorobenzene 81.0 % 50-140 01-AUG-19 2,4-Dimethylphenol 97.5 % 30-150 01-AUG-19 2,4-Dinitrophenol 105.7 % 30-150 01-AUG-19 2,4-Dinitrotoluene 90.7 % 50-140 01-AUG-19 2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	Surrogate: p-Terpl	henyl d14		126.1		%		50-140	31-JUL-19
1,2,4-Trichlorobenzene 81.0 % 50-140 01-AUG-19 2,4-Dimethylphenol 97.5 % 30-150 01-AUG-19 2,4-Dinitrophenol 105.7 % 30-150 01-AUG-19 2,4-Dinitrotoluene 90.7 % 50-140 01-AUG-19 2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Biphenyl 88.7 % 50-140 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	Surrogate: Phenol	d5		103.0		%		30-130	31-JUL-19
2,4-Dimethylphenol 97.5 % 30-150 01-AUG-19 2,4-Dinitrophenol 105.7 % 30-150 01-AUG-19 2,4-Dinitrotoluene 90.7 % 50-140 01-AUG-19 2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Biphenyl 88.7 % 50-140 01-AUG-19 Bis(2-chlorosethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19			WG3118993-6						
2,4-Dinitrophenol 105.7 % 30-150 01-AUG-19 2,4-Dinitrotoluene 90.7 % 50-140 01-AUG-19 2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Biphenyl 88.7 % 50-140 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19								50-140	01-AUG-19
2,4-Dinitrotoluene 90.7 % 50-140 01-AUG-19 2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Biphenyl 88.7 % 50-140 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	2,4-Dimethylpheno	ol		97.5				30-150	01-AUG-19
2,6-Dinitrotoluene 94.9 % 50-140 01-AUG-19 3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Biphenyl 88.7 % 50-140 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	2,4-Dinitrophenol			105.7				30-150	01-AUG-19
3,3'-Dichlorobenzidine 84.9 % 30-130 01-AUG-19 4-Chloroaniline 82.3 % 30-130 01-AUG-19 Biphenyl 88.7 % 50-140 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	2,4-Dinitrotoluene							50-140	01-AUG-19
4-Chloroaniline 82.3 % 30-130 01-AUG-19 Biphenyl 88.7 % 50-140 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	2,6-Dinitrotoluene			94.9		%		50-140	01-AUG-19
Biphenyl 88.7 % 50-140 01-AUG-19 Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	3,3'-Dichlorobenzio	dine		84.9		%		30-130	01-AUG-19
Bis(2-chloroethyl)ether 86.6 % 50-140 01-AUG-19 Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	4-Chloroaniline			82.3				30-130	01-AUG-19
Bis(2-chloroisopropyl)ether 86.2 % 50-140 01-AUG-19 Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	Biphenyl			88.7		%		50-140	01-AUG-19
Bis(2-ethylhexyl)phthalate 99.1 % 50-140 01-AUG-19 Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	Bis(2-chloroethyl)e	ether		86.6				50-140	01-AUG-19
Diethylphthalate 91.7 % 50-140 01-AUG-19 Dimethylphthalate 92.7 % 50-140 01-AUG-19	Bis(2-chloroisopro	pyl)ether		86.2		%		50-140	01-AUG-19
Dimethylphthalate 92.7 % 50-140 01-AUG-19	Bis(2-ethylhexyl)ph	hthalate		99.1		%		50-140	01-AUG-19
	Diethylphthalate			91.7		%		50-140	01-AUG-19
Phenol 97.0 % 30-130 01-AUG-19	Dimethylphthalate			92.7		%		50-140	01-AUG-19
	Phenol			97.0		%		30-130	01-AUG-19

B-HWS-R511-WT Soil



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Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	Soil		_					
Batch R473741 WG3122386-4 DUP Boron (B), Hot Water		L2318180-2 <0.10	<0.10	RPD-NA	ug/g	N/A	30	02-AUG-19
WG3122386-2 IRM Boron (B), Hot Water	Ext.	WT SAR3	117.2		%		70-130	02-AUG-19
WG3122386-3 LCS Boron (B), Hot Water	Ext.		102.3		%		70-130	02-AUG-19
WG3122386-1 MB Boron (B), Hot Water	Ext.		<0.10		ug/g		0.1	02-AUG-19
Batch R473774 WG3122385-4 DUP	8	L2318180-13						
Boron (B), Hot Water	Ext.	0.29	0.31		ug/g	8.4	30	02-AUG-19
WG3122385-2 IRM Boron (B), Hot Water	Ext.	WT SAR3	99.6		%		70-130	02-AUG-19
WG3122385-3 LCS Boron (B), Hot Water	Ext.		94.0		%		70-130	02-AUG-19
WG3122385-1 MB Boron (B), Hot Water	Ext.		<0.10		ug/g		0.1	02-AUG-19
Batch R473977 WG3124163-4 DUP Boron (B), Hot Water		L2318770-1 <0.10	<0.10	RPD-NA	ug/g	N/A	30	06-AUG-19
WG3124163-2 IRM Boron (B), Hot Water	Ext.	WT SAR3	96.8		%		70-130	06-AUG-19
WG3124163-3 LCS Boron (B), Hot Water	Ext.		106.3		%		70-130	06-AUG-19
WG3124163-1 MB Boron (B), Hot Water	Ext.		<0.10		ug/g		0.1	06-AUG-19
Batch R474650 WG3128526-4 DUP Boron (B), Hot Water		L2322352-4 0.13	0.11		ug/g	17	30	09-AUG-19
WG3128526-2 IRM Boron (B), Hot Water	Ext.	WT SAR3	102.4		%		70-130	09-AUG-19
WG3128526-3 LCS Boron (B), Hot Water	Ext.		86.9		%		70-130	09-AUG-19
WG3128526-1 MB Boron (B), Hot Water	Ext.		<0.10		ug/g		0.1	09-AUG-19
CN-WAD-R511-WT	Soil							

CN-WAD-R511-WT Soil



Workorder: L2318180 Report Date: 27-AUG-19 Page 4 of 40

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-WAD-R511-WT	Soil							
Batch R4733174 WG3119446-3 DUP Cyanide, Weak Acid Dis		L2318180-2 <0.050	<0.050	RPD-NA	ug/g	N/A	35	31-JUL-19
WG3119743-3 DUP Cyanide, Weak Acid Dis	SS	L2318180-10 < 0.050	<0.050	RPD-NA	ug/g	N/A	35	31-JUL-19
WG3119446-2 LCS Cyanide, Weak Acid Dis	SS		96.7		%		80-120	31-JUL-19
WG3119743-2 LCS Cyanide, Weak Acid Dis	SS		96.4		%		80-120	31-JUL-19
WG3119446-1 MB Cyanide, Weak Acid Dis	SS		<0.050		ug/g		0.05	31-JUL-19
WG3119743-1 MB Cyanide, Weak Acid Dis	SS		<0.050		ug/g		0.05	31-JUL-19
WG3119446-4 MS Cyanide, Weak Acid Dis	SS	L2318180-2	104.0		%		70-130	31-JUL-19
WG3119743-4 MS Cyanide, Weak Acid Dis	SS	L2318180-10	103.3		%		70-130	31-JUL-19
Batch R4739965								
WG3122950-3 DUP Cyanide, Weak Acid Dis	SS	L2319795-1 < 0.050	<0.050	RPD-NA	ug/g	N/A	35	06-AUG-19
WG3122950-2 LCS Cyanide, Weak Acid Dis	ss		97.6		%		80-120	06-AUG-19
WG3122950-1 MB Cyanide, Weak Acid Dis	SS		<0.050		ug/g		0.05	06-AUG-19
WG3122950-4 MS Cyanide, Weak Acid Dis	SS	L2319795-1	105.5		%		70-130	06-AUG-19
Batch R4744111 WG3124213-3 DUP Cyanide, Weak Acid Dis	ss	L2321692-3 <0.050	<0.050	RPD-NA	ug/g	N/A	35	08-AUG-19
WG3124213-2 LCS Cyanide, Weak Acid Dis	ss		101.8		%		80-120	08-AUG-19
WG3124213-1 MB Cyanide, Weak Acid Dis	ss		<0.050		ug/g		0.05	08-AUG-19
WG3124213-4 MS Cyanide, Weak Acid Dis	SS	L2321692-3	105.5		%		70-130	08-AUG-19
CR-CR6-IC-WT	Soil							



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Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

Test	Matrix R	eference	Result	Qualifier	Units	RPD	Limit	Analyzed
CR-CR6-IC-WT	Soil							
Batch R4731385 WG3117656-4 CRM Chromium, Hexavalent	V	WT-SQC012	84.1		%		70-130	30-JUL-19
WG3117656-3 DUP Chromium, Hexavalent		.2318180-12).51	0.61		ug/g	16	35	30-JUL-19
WG3117656-2 LCS Chromium, Hexavalent			96.9		%		80-120	30-JUL-19
WG3117656-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	30-JUL-19
Batch R4734568 WG3119364-4 CRM Chromium, Hexavalent	v	WT-SQC012	91.0		%		70-130	01-AUG-19
WG3119364-5 DUP Chromium, Hexavalent		.2318180-2 <0.20	<0.20	RPD-NA	ug/g	N/A	35	01-AUG-19
WG3119364-2 LCS Chromium, Hexavalent			101.2		%		80-120	01-AUG-19
WG3119364-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	01-AUG-19
Batch R4734977 WG3119535-4 CRM	v	NT-SQC012						
Chromium, Hexavalent	·	040012	91.4		%		70-130	01-AUG-19
WG3119849-4 CRM Chromium, Hexavalent	V	NT-SQC012	86.9		%		70-130	01-AUG-19
WG3119535-3 DUP Chromium, Hexavalent		.2318180-7 <0.20	<0.20	RPD-NA	ug/g	N/A	35	01-AUG-19
WG3119849-3 DUP Chromium, Hexavalent		.2318065-3 <0.20	<0.20	RPD-NA	ug/g	N/A	35	01-AUG-19
WG3119535-2 LCS Chromium, Hexavalent			93.9		%		80-120	01-AUG-19
WG3119849-2 LCS Chromium, Hexavalent			89.0		%		80-120	01-AUG-19
WG3119535-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	01-AUG-19
WG3119849-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	01-AUG-19
Batch R4744962 WG3124254-4 CRM Chromium, Hexavalent WG3124254-3 DUP		NT-SQC012 _2321698-3	89.5		%		70-130	08-AUG-19
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Workorder: L2318180 Report Date: 27-AUG-19 Page 6 of 40

CH2M HILL Canada Ltd. Client:

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CR-CR6-IC-WT	Soil							
Batch R4744962 WG3124254-3 DUP Chromium, Hexavalent		L2321698-3 <0.20	<0.20	RPD-NA	ug/g	N/A	35	08-AUG-19
WG3124254-2 LCS Chromium, Hexavalent			96.1		%		80-120	08-AUG-19
WG3124254-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	08-AUG-19
Batch R4754470 WG3130355-4 CRM Chromium, Hexavalent		WT-SQC012	90.8		%		70-130	14-AUG-19
WG3130355-3 DUP Chromium, Hexavalent		L2326254-1 <0.20	<0.20	RPD-NA	ug/g	N/A	35	14-AUG-19
WG3130355-2 LCS Chromium, Hexavalent			92.5		%		80-120	14-AUG-19
WG3130355-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	14-AUG-19
DX-R511-HRMS-BU	Soil							
Batch R4745047								
WG3116272-2 LCS 2,3,7,8-TCDD			99.0		%		50-150	08-AUG-19
1,2,3,7,8-PeCDD			121.0		%		50-150	08-AUG-19
1,2,3,4,7,8-HxCDD			108.0		%		50-150	08-AUG-19
1,2,3,6,7,8-HxCDD			118.0		%		50-150	08-AUG-19
1,2,3,7,8,9-HxCDD			125.0		%		50-150	08-AUG-19
1,2,3,4,6,7,8-HpCDD			110.0		%		50-150	08-AUG-19
OCDD			110.0		%		50-150	08-AUG-19
2,3,7,8-TCDF			112.0		%		50-150	08-AUG-19
1,2,3,7,8-PeCDF			122.0		%		50-150	08-AUG-19
2,3,4,7,8-PeCDF			111.0		%		50-150	08-AUG-19
1,2,3,4,7,8-HxCDF			121.0		%		50-150	08-AUG-19
1,2,3,6,7,8-HxCDF			115.0		%		50-150	08-AUG-19
2,3,4,6,7,8-HxCDF			116.0		%		50-150	08-AUG-19
1,2,3,7,8,9-HxCDF			122.0		%		50-150	08-AUG-19
1,2,3,4,6,7,8-HpCDF			119.0		%		50-150	08-AUG-19
1,2,3,4,7,8,9-HpCDF			104.0		%		50-150	08-AUG-19
OCDF			123.0		%		50-150	08-AUG-19

COMMENTS: LCS is outside method criteria for select labelled targets. Natives all meet criteria. No impact to data quality is expected.



Workorder: L2318180 Report Date: 27-AUG-19 Page 7 of 40

CH2M HILL Canada Ltd. Client:

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
DX-R511-HRMS-BU	Soil							
Batch R4745047								
WG3116272-1 MB 2,3,7,8-TCDD			<0.030	[U]	pg/g		0.03	08-AUG-19
1,2,3,7,8-PeCDD			<0.029	[U]	pg/g		0.029	08-AUG-19
1,2,3,4,7,8-HxCDD			< 0.037	M,U	pg/g		0.037	08-AUG-19
1,2,3,6,7,8-HxCDD			< 0.034	M,U	pg/g		0.034	08-AUG-19
1,2,3,7,8,9-HxCDD			< 0.035	[U]	pg/g		0.035	08-AUG-19
1,2,3,4,6,7,8-HpCDD			0.031	M,J,R	pg/g		0.025	08-AUG-19
OCDD			0.168	M,J	pg/g		0.041	08-AUG-19
2,3,7,8-TCDF			<0.029	[U]	pg/g		0.029	08-AUG-19
1,2,3,7,8-PeCDF			0.033	M,J,R	pg/g		0.026	08-AUG-19
2,3,4,7,8-PeCDF			<0.021	[U]	pg/g		0.021	08-AUG-19
1,2,3,4,7,8-HxCDF			<0.031	[U]	pg/g		0.031	08-AUG-19
1,2,3,6,7,8-HxCDF			<0.028	M,U	pg/g		0.028	08-AUG-19
2,3,4,6,7,8-HxCDF			<0.030	[U]	pg/g		0.03	08-AUG-19
1,2,3,7,8,9-HxCDF			0.049	M,J	pg/g		0.042	08-AUG-19
1,2,3,4,6,7,8-HpCDF			0.072	M,J	pg/g		0.026	08-AUG-19
1,2,3,4,7,8,9-HpCDF			< 0.032	[U]	pg/g		0.032	08-AUG-19
OCDF			0.120	M,J,R	pg/g		0.052	08-AUG-19
Total-TCDD			<0.030	[U]	pg/g		0.03	08-AUG-19
Total-PeCDD			<0.029	[U]	pg/g		0.029	08-AUG-19
Total-HxCDD			< 0.037	[U]	pg/g		0.037	08-AUG-19
Total-HpCDD			<0.025	[U]	pg/g		0.025	08-AUG-19
Total-TCDF			<0.029	[U]	pg/g		0.029	08-AUG-19
Total-PeCDF			<0.026	[U]	pg/g		0.026	08-AUG-19
Total-HxCDF			0.049	Α	pg/g		0.042	08-AUG-19
Total-HpCDF			0.072	Α	pg/g		0.032	08-AUG-19
Surrogate: 13C12-2,3,7	,8-TCDD		80.0		%		40-130	08-AUG-19
Surrogate: 13C12-1,2,3	,7,8-PeCDD		64.0		%		40-140	08-AUG-19
Surrogate: 13C12-1,2,3	,4,7,8-HxCDD		53.0		%		40-140	08-AUG-19
Surrogate: 13C12-1,2,3	,6,7,8-HxCDD		66.0		%		40-140	08-AUG-19
Surrogate: 13C12-1,2,3	,4,6,7,8-HpCD	D	54.0		%		40-140	08-AUG-19
Surrogate: 13C12-OCD	D		40.0		%		40-140	08-AUG-19
Surrogate: 13C12-2,3,7	,8-TCDF		66.0		%		40-130	08-AUG-19
Surrogate: 13C12-1,2,3	,7,8-PeCDF		63.0		%		40-140	08-AUG-19

COMMENTS: Blank has low levels of select targets that were within the reference method control limits



Qualifier

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RPD

Limit

Analyzed

Units

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

Reference

Result

TORONTO ON M2J 1R3

Matrix

Contact: VICTORIA PETERS

Test

DX-R511-HRM	S-BU	Soil						
Batch	R4745047							
WG3116272		7.0 0 005			0/		40.440	
•	13C12-2,3,4,			60.0	%		40-140	08-AUG-19
-		4,7,8-HxCDF		50.0	%		40-140	08-AUG-19
Surrogate:	13C12-1,2,3,	6,7,8-HxCDF		66.0	%		40-140	08-AUG-19
Surrogate:	13C12-2,3,4,	6,7,8-HxCDF		60.0	%		40-140	08-AUG-19
Surrogate:	13C12-1,2,3,	7,8,9-HxCDF		56.0	%		40-140	08-AUG-19
Surrogate:	13C12-1,2,3,	4,6,7,8-HpCDF		52.0	%		40-140	08-AUG-19
Surrogate:	13C12-1,2,3,	4,7,8,9-HpCDF		60.0	%		40-140	08-AUG-19
Surrogate:	37Cl4-2,3,7,8	3-TCDD (Cleanup	o)	68.0	%		40-130	08-AUG-19
COMMI	ENTS: Blank	has low levels of	select targets tha	t were within the reference	e method control limit	ts		
EC-WT		Soil						
Batch	R4737351							
WG3122391	_		WG3122391-3	0.400	C/		00	
Conductivit			0.426	0.432	mS/cm	1.4	20	02-AUG-19
WG3122391 Conductivit			WT SAR3	98.6	%		70-130	02-AUG-19
WG3122665				30.0	70		70-130	02-AUG-19
Conductivit				97.3	%		90-110	02-AUG-19
WG3122391								027.00
Conductivit				<0.0040	mS/cm		0.004	02-AUG-19
Batch	R4738488							
WG3122393			WG3122393-3					
Conductivit	y		0.208	0.206	mS/cm	1.0	20	02-AUG-19
WG3122393	3-2 IRM		WT SAR3					
Conductivit	y			98.6	%		70-130	02-AUG-19
WG3122663				07.7	0/			
Conductivit				97.7	%		90-110	02-AUG-19
WG3122393 Conductivit				<0.0040	mS/cm		0.004	02 ALIC 40
				<0.0040	1113/0111		0.004	02-AUG-19
Batch	R4739844		W00404400 0					
WG3124169 Conductivit			WG3124169-3 0.389	0.389	mS/cm	0.0	20	06-AUG-19
WG3124169			WT SAR3		5,011	0.0	20	00 A00-19
Conductivit			VII JARJ	96.4	%		70-130	06-AUG-19
WG3124436								
Conductivit				100.3	%		90-110	06-AUG-19



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Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-WT		Soil							
Batch R4 WG3124169-1 Conductivity	739844 MB			<0.0040		mS/cm		0.004	06-AUG-19
Batch R4 WG3128641-4 Conductivity	746938 DUP		WG3128641-3 0.252	0.249		mS/cm	1.2	20	12-AUG-19
WG3128641-2 Conductivity	IRM		WT SAR3	90.9		%		70-130	12-AUG-19
WG3130172-1 Conductivity	LCS			99.3		%		90-110	12-AUG-19
WG3128641-1 Conductivity	MB			<0.0040		mS/cm		0.004	12-AUG-19
Batch R4	760888								
WG3137412-4 Conductivity	DUP		WG3137412-3 3.30	3.31		mS/cm	0.3	20	20-AUG-19
WG3137412-2 Conductivity	IRM		WT SAR3	94.1		%		70-130	20-AUG-19
WG3137831-1 Conductivity	LCS			98.7		%		90-110	20-AUG-19
WG3137412-1 Conductivity	MB			<0.0040		mS/cm		0.004	20-AUG-19
F1-HS-511-WT		Soil							
Batch R4	737203								
WG3121780-4 F1 (C6-C10)	DUP		WG3121780-3 <5.0	<5.0	RPD-NA	ug/g	N/A	30	02-AUG-19
WG3121780-2 F1 (C6-C10)	LCS			103.3		%		80-120	02-AUG-19
WG3121780-1 F1 (C6-C10)	МВ			<5.0		ug/g		5	02-AUG-19
Surrogate: 3,4-I	Dichloroto	oluene		84.0		%		60-140	02-AUG-19
WG3121780-6 F1 (C6-C10)	MS		L2318180-3	79.4		%		60-140	02-AUG-19
F2-F4-511-WT		Soil							
Batch R4	734301								
WG3119460-8 F2 (C10-C16)	DUP		WG3119460-1 0) <10	PDD NA	ug/g	N/A	30	21 10
F3 (C16-C34)					RPD-NA			30	31-JUL-19
F3 (C10-C34)			<50	<50	RPD-NA	ug/g	N/A	30	31-JUL-19



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Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Mat	rix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	Soil	I						_
Batch R4	734301							
WG3119460-8 F4 (C34-C50)	DUP	WG311946 6	0-10 <50	RPD-NA	ug/g	N/A	30	31-JUL-19
WG3119460-7 F2 (C10-C16)	LCS		101.8		%		80-120	31-JUL-19
F3 (C16-C34)			99.8		%		80-120	31-JUL-19
F4 (C34-C50)			99.6		%		80-120	31-JUL-19
WG3119460-6 F2 (C10-C16)	MB		<10		ug/g		10	31-JUL-19
F3 (C16-C34)			<50		ug/g		50	31-JUL-19
F4 (C34-C50)			<50		ug/g		50	31-JUL-19
Surrogate: 2-Br	omobenzotriflu	uoride	88.8		%		60-140	31-JUL-19
WG3119460-9	MS	WG311946	0-10					
F2 (C10-C16)			104.3		%		60-140	31-JUL-19
F3 (C16-C34)			102.7		%		60-140	31-JUL-19
F4 (C34-C50)			103.6		%		60-140	31-JUL-19
WG3119679-3	734417 DUP	WG311967						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	31-JUL-19
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	31-JUL-19
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	31-JUL-19
WG3119679-2 F2 (C10-C16)	LCS		99.9		%		80-120	31-JUL-19
F3 (C16-C34)			101.4		%		80-120	31-JUL-19
F4 (C34-C50)			99.2		%		80-120	31-JUL-19
WG3119679-1 F2 (C10-C16)	МВ		<10		ug/g		10	31-JUL-19
F3 (C16-C34)			<50		ug/g		50	31-JUL-19
F4 (C34-C50)			<50		ug/g		50	31-JUL-19
Surrogate: 2-Br	omobenzotriflu	uoride	80.3		%		60-140	31-JUL-19
WG3119679-4 F2 (C10-C16)	MS	WG311967	9-5 98.3		%		60-140	31-JUL-19
F3 (C16-C34)			99.9		%		60-140	31-JUL-19
F4 (C34-C50)			99.3		%		60-140	31-JUL-19 31-JUL-19
1 1 (304 300)			55.5		,,		00-140	31-00E-18



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245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT		Soil							
Batch R4	735109								
WG3121145-3 F2 (C10-C16)	DUP		WG3121145-5 39	45		ug/g	14	30	01-AUG-19
F3 (C16-C34)			131	141		ug/g	6.9	30	01-AUG-19
F4 (C34-C50)			<50	<50	RPD-NA	ug/g	N/A	30	01-AUG-19
WG3121145-2 F2 (C10-C16)	LCS			97.5		%		80-120	01-AUG-19
F3 (C16-C34)				102.9		%		80-120	01-AUG-19
F4 (C34-C50)				107.2		%		80-120	01-AUG-19
WG3121145-1	МВ			<10				10	
F2 (C10-C16) F3 (C16-C34)				<10 <50		ug/g		50	01-AUG-19
F4 (C34-C50)				<50 <50		ug/g		50	01-AUG-19
Surrogate: 2-Br	omobenz	zotrifluorida		77.5		ug/g %		60-140	01-AUG-19
WG3121145-4	MS	otimuonae	WG3121145-5	77.5		70		00-140	01-AUG-19
F2 (C10-C16)	IIIO		W03121143-3	92.2		%		60-140	01-AUG-19
F3 (C16-C34)				99.2		%		60-140	01-AUG-19
F4 (C34-C50)				96.9		%		60-140	01-AUG-19
HG-200.2-CVAA-W	т	Soil							
Batch R4	737794								
WG3122340-2 Mercury (Hg)	CRM		WT-CANMET-	ΓΙLL1 101.8		%		70-130	02-AUG-19
WG3122340-6	DUP		WG3122340-5						
Mercury (Hg)			0.0333	0.0307		ug/g	8.0	40	02-AUG-19
WG3122340-3 Mercury (Hg)	LCS			110.5		%		80-120	02-AUG-19
WG3122340-1	МВ								
Mercury (Hg)				<0.0050		mg/kg		0.005	02-AUG-19
Batch R4	739869								
WG3124147-2 Mercury (Hg)	CRM		WT-CANMET-	FILL1 97.5		%		70-130	06-AUG-19
WG3124147-6 Mercury (Hg)	DUP		WG3124147-5 0.0241	0.0220		ug/g	9.0	40	06-AUG-19
WG3124147-3 Mercury (Hg)	LCS			103.0		%		80-120	06-AUG-19
WG3124147-1 Mercury (Hg)	МВ			<0.0050		mg/kg		0.005	06-AUG-19



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245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAA-WT	Soil							
Batch R4745243 WG3127124-2 CRM		WT-CANMET-	ΓILL1					
Mercury (Hg)			93.0		%		70-130	09-AUG-19
WG3127124-6 DUP Mercury (Hg)		WG3127124-5 0.0065	0.0066		ug/g	2.1	40	09-AUG-19
WG3127124-3 LCS Mercury (Hg)			102.5		%		80-120	09-AUG-19
WG3127124-1 MB Mercury (Hg)			<0.0050		mg/kg		0.005	09-AUG-19
Batch R4759827								
WG3137385-2 CRM Mercury (Hg)		WT-CANMET-1	FILL1 102.6		%		70-130	20-AUG-19
WG3137385-6 DUP Mercury (Hg)		WG3137385-5 0.0207	0.0225		ug/g	8.6	40	20-AUG-19
WG3137385-3 LCS Mercury (Hg)			110.5		%		80-120	20-AUG-19
WG3137385-1 MB Mercury (Hg)			<0.0050		mg/kg		0.005	20-AUG-19
MEHG-GCAF-VA	Soil							
Batch R4767684 WG3136906-3 LCS	a)		87.1		%		70.400	00 110 10
Methylmercury (as MeH WG3136906-1 MB							70-130	23-AUG-19
Methylmercury (as MeH	g)		<0.000050		mg/kg wwt		0.00005	23-AUG-19
MET-200.2-CCMS-WT	Soil							
Batch R4737292								
WG3122340-2 CRM Antimony (Sb)		WT-CANMET-1	ГІLL1 101.2		%		70-130	02-AUG-19
Arsenic (As)			103.0		%		70-130	02-AUG-19
Barium (Ba)			100.6		%		70-130	02-AUG-19
Beryllium (Be)			105.0		%		70-130	02-AUG-19
Boron (B)			2.9		mg/kg		0-8.2	02-AUG-19
Cadmium (Cd)			104.2		%		70-130	02-AUG-19
Chromium (Cr)			105.2		%		70-130	02-AUG-19
Cobalt (Co)			102.8		%		70-130	02-AUG-19
			106.6		%		70-130	02-AUG-19
Copper (Cu)								



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245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4737292	!							
WG3122340-2 CRM		WT-CANMET			0/			
Molybdenum (Mo)			104.3		%		70-130	02-AUG-19
Nickel (Ni)			103.5		%		70-130	02-AUG-19
Selenium (Se)			0.31		mg/kg		0.11-0.51	02-AUG-19
Silver (Ag)			0.24		mg/kg		0.13-0.33	02-AUG-19
Thallium (TI)			0.124		mg/kg		0.077-0.18	02-AUG-19
Uranium (U)			102.8		%		70-130	02-AUG-19
Vanadium (V)			103.5		%		70-130	02-AUG-19
Zinc (Zn)			98.4		%		70-130	02-AUG-19
WG3122340-6 DUP Antimony (Sb)		WG3122340- 0.12	5 0.11		ug/g	12	30	02-AUG-19
Arsenic (As)		2.95	2.63		ug/g	12	30	02-AUG-19
Barium (Ba)		43.4	37.9		ug/g	14	40	02-AUG-19 02-AUG-19
Beryllium (Be)		0.38	0.31		ug/g	20	30	02-AUG-19 02-AUG-19
Boron (B)		7.4	5.6		ug/g	27	30	
Cadmium (Cd)		0.183	0.161		ug/g ug/g	13	30	02-AUG-19
Chromium (Cr)		15.0	12.8		ug/g ug/g	16	30	02-AUG-19
Cobalt (Co)		4.71	4.28					02-AUG-19
Copper (Cu)		11.3	10.3		ug/g	9.6	30	02-AUG-19
Lead (Pb)		16.4	16.2		ug/g	9.8	30	02-AUG-19
					ug/g	1.1	40	02-AUG-19
Molybdenum (Mo)		0.28	0.25		ug/g	11	40	02-AUG-19
Nickel (Ni)		10.2	9.27	555	ug/g	9.7	30	02-AUG-19
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	02-AUG-19
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	02-AUG-19
Thallium (TI)		0.083	0.076		ug/g	8.7	30	02-AUG-19
Uranium (U)		0.490	0.470		ug/g	4.1	30	02-AUG-19
Vanadium (V)		27.3	22.7		ug/g	19	30	02-AUG-19
Zinc (Zn)		68.0	61.4		ug/g	10	30	02-AUG-19
WG3122340-4 LCS Antimony (Sb)			99.6		%		80-120	02-AUG-19
Arsenic (As)			96.7		%		80-120	02-AUG-19
Barium (Ba)			98.4		%		80-120	02-AUG-19
Beryllium (Be)			93.2		%		80-120	02-AUG-19
Boron (B)			90.4		%		80-120	02-AUG-19



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245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4737292								
WG3122340-4 LCS			07.4		0/			
Cadmium (Cd)			97.1		%		80-120	02-AUG-19
Chromium (Cr)			98.7		%		80-120	02-AUG-19
Cobalt (Co)			96.4		%		80-120	02-AUG-19
Copper (Cu)			95.2		%		80-120	02-AUG-19
Lead (Pb)			98.1		%		80-120	02-AUG-19
Molybdenum (Mo)			101.1		%		80-120	02-AUG-19
Nickel (Ni)			95.9		%		80-120	02-AUG-19
Selenium (Se)			96.3		%		80-120	02-AUG-19
Silver (Ag)			98.5		%		80-120	02-AUG-19
Thallium (TI)			89.9		%		80-120	02-AUG-19
Uranium (U)			101.6		%		80-120	02-AUG-19
Vanadium (V)			99.8		%		80-120	02-AUG-19
Zinc (Zn)			90.8		%		80-120	02-AUG-19
WG3122340-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	02-AUG-19
Arsenic (As)			<0.10		mg/kg		0.1	02-AUG-19
Barium (Ba)			<0.50		mg/kg		0.5	02-AUG-19
Beryllium (Be)			<0.10		mg/kg		0.1	02-AUG-19
Boron (B)			<5.0		mg/kg		5	02-AUG-19
Cadmium (Cd)			< 0.020		mg/kg		0.02	02-AUG-19
Chromium (Cr)			< 0.50		mg/kg		0.5	02-AUG-19
Cobalt (Co)			<0.10		mg/kg		0.1	02-AUG-19
Copper (Cu)			< 0.50		mg/kg		0.5	02-AUG-19
Lead (Pb)			< 0.50		mg/kg		0.5	02-AUG-19
Molybdenum (Mo)			<0.10		mg/kg		0.1	02-AUG-19
Nickel (Ni)			<0.50		mg/kg		0.5	02-AUG-19
Selenium (Se)			<0.20		mg/kg		0.2	02-AUG-19
Silver (Ag)			<0.10		mg/kg		0.1	02-AUG-19
Thallium (TI)			< 0.050		mg/kg		0.05	02-AUG-19
Uranium (U)			< 0.050		mg/kg		0.05	02-AUG-19
Vanadium (V)			<0.20		mg/kg		0.2	02-AUG-19
Zinc (Zn)			<2.0		mg/kg		2	02-AUG-19
					-			-



Workorder: L2318180 Report Date: 27-AUG-19 Page 15 of 40

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4739822								
WG3124147-2 CRM		WT-CANMET-			0/		70.400	
Antimony (Sb)			99.6		%		70-130	06-AUG-19
Arsenic (As)			97.3		%		70-130	06-AUG-19
Barium (Ba)			101.5		%		70-130	06-AUG-19
Beryllium (Be)			100.8		%		70-130	06-AUG-19
Boron (B)			3.3		mg/kg		0-8.2	06-AUG-19
Cadmium (Cd)			102.7		%		70-130	06-AUG-19
Chromium (Cr)			100.3		%		70-130	06-AUG-19
Cobalt (Co)			98.4		%		70-130	06-AUG-19
Copper (Cu)			99.7		%		70-130	06-AUG-19
Lead (Pb)			101.1		%		70-130	06-AUG-19
Molybdenum (Mo)			99.6		%		70-130	06-AUG-19
Nickel (Ni)			100.1		%		70-130	06-AUG-19
Selenium (Se)			0.29		mg/kg		0.11-0.51	06-AUG-19
Silver (Ag)			0.22		mg/kg		0.13-0.33	06-AUG-19
Thallium (TI)			0.127		mg/kg		0.077-0.18	06-AUG-19
Uranium (U)			113.1		%		70-130	06-AUG-19
Vanadium (V)			100.4		%		70-130	06-AUG-19
Zinc (Zn)			91.4		%		70-130	06-AUG-19
WG3124147-6 DUP Antimony (Sb)		WG3124147-5 0.11	0.11		ug/g	0.8	30	06-AUG-19
Arsenic (As)		3.28	3.32		ug/g	1.2	30	06-AUG-19
Barium (Ba)		81.8	80.7		ug/g	1.3	40	06-AUG-19
Beryllium (Be)		0.60	0.64		ug/g	7.9	30	06-AUG-19
Boron (B)		8.3	7.3		ug/g	13	30	06-AUG-19
Cadmium (Cd)		0.110	0.106		ug/g	3.3	30	06-AUG-19
Chromium (Cr)		25.3	24.9		ug/g	1.4	30	06-AUG-19
Cobalt (Co)		9.19	9.27		ug/g	0.9	30	06-AUG-19
Copper (Cu)		18.9	19.3		ug/g	2.0	30	06-AUG-19
Lead (Pb)		9.79	10.1		ug/g	3.4	40	06-AUG-19
Molybdenum (Mo)		0.39	0.41		ug/g	3.3	40	06-AUG-19
Nickel (Ni)		21.6	21.8		ug/g ug/g	0.8		06-AUG-19 06-AUG-19
Selenium (Se)		<0.20	<0.20	DDD MA			30	
` '				RPD-NA	ug/g	N/A	30	06-AUG-19
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	06-AUG-19



Workorder: L2318180 Report Date: 27-AUG-19 Page 16 of 40

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Batch R4739822 WG3124147-6 DUP Thaillum (TI) WG3124147-5 D.0167 Ug/g 3.1 30 06-AUG-19 Thaillum (TI) 0.167 0.752 Ug/g 3.1 30 06-AUG-19 Vanadium (V) 34.0 33.1 Ug/g 2.7 30 06-AUG-19 Zinc (Zn) 43.0 42.7 Ug/g 2.7 30 06-AUG-19 WG3124147-4 LCS LCS Antimony (Sh) Se.3 % 80-120 06-AUG-19 Arsenic (As) 96.0 % 80-120 06-AUG-19 96-BUG-19 Beryllium (Be) 99.2 % 80-120 06-AUG-19 96-BUG-19 Beryllium (Cd) 98.3 % 80-120 06-AUG-19 96-BUG-19	Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
March Marc	MET-200.2-CCMS-WT	Soil							
Thalium (TI) 0.167 0.172 ug/g 3.1 30 06-AUG-19 Uranium (U) 0.555 0.561 ug/g 2.7 30 06-AUG-19 Vanadium (V) 34.0 33.1 ug/g 2.7 30 06-AUG-19 Zinc (Zn) 43.0 42.7 ug/g 0.6 30 06-AUG-19 WG3124147-4 LCS LCS Antimony (Sh) 98.3 % 80-120 06-AUG-19 Arserio (As) 98.0 % 80-120 06-AUG-19 96-AUG-19 Barium (Ba) 100.1 % 80-120 06-AUG-19 Berylium (Be) 99.2 % 80-120 06-AUG-19 Berylium (Be) 99.2 % 80-120 06-AUG-19 Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Chromium (Cr) 99.8 % 80-120 06-AUG-19 Coball (Co) 97.1 %	Batch R4739822	2							
Vanedium (V) 34.0 33.1 ug/g 2.7 30 06-AUG-19 Zinc (Zn) 43.0 42.7 ug/g 0.6 30 06-AUG-19 WG3124147-4 LCS LCS Antimony (Sb) 96.0 % 80-120 06-AUG-19 Arsenic (As) 96.0 % 80-120 06-AUG-19 Barium (Ba) 100.1 % 80-120 06-AUG-19 Beryllium (Be) 99.2 % 80-120 06-AUG-19 Beryllium (Cd) 98.3 % 80-120 06-AUG-19 Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Chyper (Cu) 96.1 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Mickal (Ni) 95				0.172		ug/g	3.1	30	06-AUG-19
Vanadium (V) 34.0 33.1 ug/g 2.7 30 06-AUG-19 Zinc (Zn) 43.0 42.7 ug/g 0.6 30 06-AUG-19 WG3124147-4 LCS LCS Antimony (Sb) 98.3 % 80-120 06-AUG-19 Arsenic (As) 96.0 % 80-120 06-AUG-19 Barium (Ba) 100.1 % 80-120 06-AUG-19 Beryllium (Be) 99.2 % 80-120 06-AUG-19 Boron (B) 93.6 % 80-120 06-AUG-19 Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Chromium (Mo) 96.1 % 80-120 06-AUG-19 Chromium (Mo) 101.2 % 80-120 06-AUG-19 Molydednum (Mo) <th< td=""><td>Uranium (U)</td><td></td><td>0.555</td><td>0.561</td><td></td><td>ug/g</td><td></td><td>30</td><td></td></th<>	Uranium (U)		0.555	0.561		ug/g		30	
MG3124147-4 LCS Antimony (5b) 98.3 % 80-120 06-AUG-19 Arsenic (As) 96.0 % 80-120 06-AUG-19 Barlium (Ba) 100.1 % 80-120 06-AUG-19 Beryllium (Be) 99.2 % 80-120 06-AUG-19 Boron (B) 33.6 % 80-120 06-AUG-19 Boron (B) 98.3 % 80-120 06-AUG-19 Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Cobalt (Co) 97.1 % 80-120 06-AUG-19 Copper (Cu) 96.1 % 80-120 06-AUG-19 Laad (Pb) 99.8 % 80-120 06-AUG-19 Laad (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Thallium (TT) 100.1 % 80-120 06-AUG-19 Uranium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB Antimony (Sb) <0.10 mg/kg 0.1 06-AUG-19 Beryllium (Be) <0.10 mg/kg 0.1 06-AUG-19 Beryllium (Be) <0.00 mg/kg 0.5 06-AUG-19 Beryllium (Cd) <0.50 mg/kg 0.5 06-AUG-19 Codallum (Cd) <0.000 mg/kg 0.5 06-AUG-19	Vanadium (V)		34.0	33.1		ug/g		30	
Antimony (Sb) 98.3 % 80-120 06-AUG-19 Arsenic (As) 96.0 % 80-120 06-AUG-19 Barium (Ba) 100.1 % 80-120 06-AUG-19 Berylium (Be) 99.2 % 80-120 06-AUG-19 Boron (B) 93.6 % 80-120 06-AUG-19 Boron (B) 93.6 % 80-120 06-AUG-19 Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Cobalt (Co) 97.1 % 80-120 06-AUG-19 Copper (Cu) 96.1 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Arsenic (As) 9.0 06-AUG-19 Barium (Ba) 9.0 07.0 mg/kg 0.1 06-AUG-19 Barium (Ba) 9.0 07.0 mg/kg 0.1 06-AUG-19 Beryllium (Be) 9.0 07.0 mg/kg 0.5 06-AUG-19 Beryllium (Be) 9.0 07.0 mg/kg 0.5 06-AUG-19 Codalium (Cd) 9.0 07.0 mg/kg 0.5 06-AUG-19	Zinc (Zn)		43.0	42.7		ug/g	0.6	30	06-AUG-19
Arsenic (As) 96.0 % 80-120 06-AUG-19 Barium (Ba) 100.1 % 80-120 06-AUG-19 Beryllum (Be) 99.2 % 80-120 06-AUG-19 Boron (B) 93.6 % 80-120 06-AUG-19 Boron (B) 93.6 % 80-120 06-AUG-19 Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Cobalt (Co) 97.1 % 80-120 06-AUG-19 Coper (Cu) 96.1 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Utranium (U) 98.4 % 80-120 06-AUG-19 Utranium (V) 98.4 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB Antimony (Sb) <0.10 mg/kg 0.1 06-AUG-19 Barium (Ba) <0.50 mg/kg 0.5 06-AUG-19 Beryllum (Be) <0.00 mg/kg 0.1 06-AUG-19 Beryllum (Be) <0.00 mg/kg 0.1 06-AUG-19 Beryllum (Be) <0.00 mg/kg 0.1 06-AUG-19 Coper (Cu) <0.00 mg/kg 0.0 06-AUG-19 Cobalt (Co) <0.00 mg/kg 0.0 06-AUG-19				98.3		%		80-120	06-AUG-19
Barium (Ba) 100.1 % 80-120 06-AUG-19 Beryllium (Be) 99.2 % 80-120 06-AUG-19 Boron (B) 93.6 % 80-120 06-AUG-19 Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Cobalt (Co) 97.1 % 80-120 06-AUG-19 Copper (Cu) 96.1 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Mickel (Ni) 96.4 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4	• , ,								
Beryllium (Be) 99.2 % 80-120 06-AUG-19 Boron (B) 93.6 % 80-120 06-AUG-19 Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Cobalt (Co) 97.1 % 80-120 06-AUG-19 Copper (Cu) 96.1 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Selver (Ag) 97.5 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Vanadium (V) 100.1 <td< td=""><td></td><td></td><td></td><td>100.1</td><td></td><td></td><td></td><td></td><td></td></td<>				100.1					
Boron (B) 93.6 % 80-120 06-AUG-19 Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Cobalt (Co) 97.1 % 80-120 06-AUG-19 Copper (Cu) 96.1 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (Ti) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 WG312417-1 MB 80-12	Beryllium (Be)			99.2		%		80-120	
Cadmium (Cd) 98.3 % 80-120 06-AUG-19 Chromium (Cr) 98.2 % 80-120 06-AUG-19 Cobalt (Co) 97.1 % 80-120 06-AUG-19 Copper (Cu) 96.1 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Tranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Variatium (V) 80.7 80-120 06-AUG-19 Arisenic (As) <0.10	Boron (B)			93.6		%		80-120	
Cobalt (Co) 97.1 % 80-120 06-AUG-19 Copper (Cu) 96.1 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Vario (Zh) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB Antimony (Sb) 0.1 06-AUG-19 Arsenic (As) <0.10	Cadmium (Cd)			98.3		%			
Copper (Cu) 96.1 % 80-120 06-AUG-19 Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB Antimony (Sb) 80.1 06-AUG-19 Arsenic (As) <0.10	Chromium (Cr)			98.2		%		80-120	06-AUG-19
Lead (Pb) 99.8 % 80-120 06-AUG-19 Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB MB Name (Aug-1) MB Antimony (Sb) <0.10	Cobalt (Co)			97.1		%		80-120	06-AUG-19
Molybdenum (Mo) 101.2 % 80-120 06-AUG-19 Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB Name (Ag) 0.1 06-AUG-19 WG3124147-1 MB Name (Ag) 0.1 06-AUG-19 Arsenic (As) <0.10	Copper (Cu)			96.1		%		80-120	06-AUG-19
Nickel (Ni) 96.4 % 80-120 06-AUG-19 Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB ** 80-120 06-AUG-19 Arsenic (As) <0.10	Lead (Pb)			99.8		%		80-120	06-AUG-19
Selenium (Se) 95.6 % 80-120 06-AUG-19 Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB Antimony (Sb) <0.10	Molybdenum (Mo)			101.2		%		80-120	06-AUG-19
Silver (Ag) 97.5 % 80-120 06-AUG-19 Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB Antimony (Sb) <0.10	Nickel (Ni)			96.4		%		80-120	06-AUG-19
Thallium (TI) 97.0 % 80-120 06-AUG-19 Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 Artimony (Sb) Arsenic (As) <0.10	Selenium (Se)			95.6		%		80-120	06-AUG-19
Uranium (U) 98.4 % 80-120 06-AUG-19 Vanadium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB Antimony (Sb) <0.10	Silver (Ag)			97.5		%		80-120	06-AUG-19
Vanadium (V) 100.1 % 80-120 06-AUG-19 Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB Antimony (Sb) <0.10	Thallium (TI)			97.0		%		80-120	06-AUG-19
Zinc (Zn) 87.7 % 80-120 06-AUG-19 WG3124147-1 MB MB Co.10 mg/kg 0.1 06-AUG-19 Arsenic (As) <0.10 mg/kg 0.1 06-AUG-19 Barium (Ba) <0.50 mg/kg 0.5 06-AUG-19 Beryllium (Be) <0.10 mg/kg 0.1 06-AUG-19 Boron (B) <5.0 mg/kg 0.02 06-AUG-19 Cadmium (Cd) <0.020 mg/kg 0.5 06-AUG-19 Chromium (Cr) <0.50 mg/kg 0.1 06-AUG-19 Cobalt (Co) <0.10 mg/kg 0.1 06-AUG-19 Copper (Cu) <0.50 mg/kg 0.5 06-AUG-19	Uranium (U)			98.4		%		80-120	06-AUG-19
WG3124147-1 MB Antimony (Sb) <0.10 mg/kg 0.1 06-AUG-19 Arsenic (As) <0.10	Vanadium (V)			100.1		%		80-120	06-AUG-19
Antimony (Sb) <0.10	Zinc (Zn)			87.7		%		80-120	06-AUG-19
Arsenic (As) <0.10				<0.10		mg/kg		0.1	06-AUG-19
Barium (Ba) <0.50				<0.10				0.1	
Beryllium (Be) <0.10	Barium (Ba)			<0.50				0.5	
Boron (B) <5.0	Beryllium (Be)			<0.10				0.1	
Chromium (Cr) <0.50 mg/kg 0.5 06-AUG-19 Cobalt (Co) <0.10	Boron (B)			<5.0		mg/kg		5	
Chromium (Cr) <0.50 mg/kg 0.5 06-AUG-19 Cobalt (Co) <0.10	Cadmium (Cd)			<0.020		mg/kg		0.02	
Cobalt (Co) <0.10 mg/kg 0.1 06-AUG-19 Copper (Cu) <0.50	Chromium (Cr)			<0.50		mg/kg		0.5	
	Cobalt (Co)			<0.10		mg/kg		0.1	
Lead (Pb) <0.50 mg/kg 0.5 06-AUG-19	Copper (Cu)			<0.50		mg/kg		0.5	06-AUG-19
007100	Lead (Pb)			<0.50		mg/kg		0.5	06-AUG-19



Workorder: L2318180 Report Date: 27-AUG-19 Page 17 of 40

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4739822								
WG3124147-1 MB								
Molybdenum (Mo)			<0.10		mg/kg		0.1	06-AUG-19
Nickel (Ni)			<0.50		mg/kg		0.5	06-AUG-19
Selenium (Se)			<0.20		mg/kg		0.2	06-AUG-19
Silver (Ag)			<0.10		mg/kg		0.1	06-AUG-19
Thallium (TI)			< 0.050		mg/kg		0.05	06-AUG-19
Uranium (U)			< 0.050		mg/kg		0.05	06-AUG-19
Vanadium (V)			<0.20		mg/kg		0.2	06-AUG-19
Zinc (Zn)			<2.0		mg/kg		2	06-AUG-19
Batch R4745327								
WG3127124-2 CRM		WT-CANMET-						
Antimony (Sb)			104.0		%		70-130	09-AUG-19
Arsenic (As)			103.1		%		70-130	09-AUG-19
Barium (Ba)			99.8		%		70-130	09-AUG-19
Beryllium (Be)			95.7		%		70-130	09-AUG-19
Boron (B)			2.6		mg/kg		0-8.2	09-AUG-19
Cadmium (Cd)			103.4		%		70-130	09-AUG-19
Chromium (Cr)			104.7		%		70-130	09-AUG-19
Cobalt (Co)			101.6		%		70-130	09-AUG-19
Copper (Cu)			103.7		%		70-130	09-AUG-19
Lead (Pb)			99.8		%		70-130	09-AUG-19
Molybdenum (Mo)			99.0		%		70-130	09-AUG-19
Nickel (Ni)			103.1		%		70-130	09-AUG-19
Selenium (Se)			0.30		mg/kg		0.11-0.51	09-AUG-19
Silver (Ag)			0.24		mg/kg		0.13-0.33	09-AUG-19
Thallium (TI)			0.126		mg/kg		0.077-0.18	09-AUG-19
Uranium (U)			99.9		%		70-130	09-AUG-19
Vanadium (V)			104.8		%		70-130	09-AUG-19
Zinc (Zn)			101.0		%		70-130	09-AUG-19
WG3127124-6 DUP Antimony (Sb)		WG3127124-5 <0.10	<0.10	RPD-NA	ug/g	N/A	30	09-AUG-19
Arsenic (As)		1.86	2.47		ug/g	28	30	09-AUG-19
Barium (Ba)		16.0	15.8		ug/g	1.2	40	09-AUG-19
Beryllium (Be)		0.16	0.16		ug/g	4.2	30	09-AUG-19
Boron (B)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	09-AUG-19



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est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4745327	•							
WG3127124-6 DUP Cadmium (Cd)		WG3127124-5 0.176	0.187		ug/g	5.8	30	09-AUG-19
Chromium (Cr)		7.83	7.85		ug/g	0.2	30	09-AUG-19
Cobalt (Co)		2.59	2.57		ug/g	0.9	30	09-AUG-19
Copper (Cu)		7.32	6.94		ug/g	5.4	30	09-AUG-19
Lead (Pb)		11.1	11.1		ug/g	0.0	40	09-AUG-19
Molybdenum (Mo)		0.16	0.17		ug/g	8.3	40	09-AUG-19
Nickel (Ni)		5.44	5.40		ug/g	0.7	30	09-AUG-19
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	09-AUG-19
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	09-AUG-19
Thallium (TI)		0.050	<0.050	RPD-NA	ug/g	N/A	30	09-AUG-19
Uranium (U)		0.420	0.421	5 101	ug/g	0.2	30	09-AUG-19
Vanadium (V)		14.7	14.8		ug/g	0.2	30	09-AUG-19
Zinc (Zn)		80.9	78.3		ug/g	3.3	30	09-AUG-19
WG3127124-4 LCS					0.0			337.22
Antimony (Sb)			108.4		%		80-120	09-AUG-19
Arsenic (As)			108.0		%		80-120	09-AUG-19
Barium (Ba)			111.0		%		80-120	09-AUG-19
Beryllium (Be)			96.5		%		80-120	09-AUG-19
Boron (B)			84.9		%		80-120	09-AUG-19
Cadmium (Cd)			102.9		%		80-120	09-AUG-19
Chromium (Cr)			107.6		%		80-120	09-AUG-19
Cobalt (Co)			106.1		%		80-120	09-AUG-19
Copper (Cu)			104.1		%		80-120	09-AUG-19
Lead (Pb)			102.3		%		80-120	09-AUG-19
Molybdenum (Mo)			105.8		%		80-120	09-AUG-19
Nickel (Ni)			105.2		%		80-120	09-AUG-19
Selenium (Se)			106.7		%		80-120	09-AUG-19
Silver (Ag)			105.9		%		80-120	09-AUG-19
Thallium (TI)			101.1		%		80-120	09-AUG-19
Uranium (U)			104.2		%		80-120	09-AUG-19
Vanadium (V)			109.2		%		80-120	09-AUG-19
Zinc (Zn)			101.5		%		80-120	09-AUG-19



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Metr-2002-CCMS-WT Batch R4745327 WG3127124-1 MB Antimony (Sb) <0.10 mg/kg 0.1 09-AUG-19 Ansenic (As) <0.50 mg/kg 0.1 09-AUG-19 Ansenic (As) <0.50 mg/kg 0.1 09-AUG-19 Ban'um (Ba) <0.50 mg/kg 0.1 09-AUG-19 Benyfillum (Cd) <0.50 mg/kg 0.5 09-AUG-19 O9-AUG-19 O9-AUG-19	Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MG127124-1	MET-200.2-CCMS-WT	Soil							
Antemiory (Sb)	Batch R4745327								
Arsenic (As)				-0.10		ma/ka		0.1	00 410 40
Barium (Ba)									
Beryllium (Be)									
Boron (B)	` ,								
Cadmium (Cd) <0.020 mg/kg 0.02 09-AUG-19 Chromium (Cr) <0.50									
Chromium (Cr) <0.50 mg/kg 0.5 09-AUG-19 Cobalt (Co) <0.10	` ,								
Cobalt (Co) <0.10 mg/kg 0.1 0g-AUG-19 Copper (Cu) <0.50									
Copper (Cu) <0.50 mg/kg 0.5 09-AUG-19 Lead (Pb) <0.50									
Lead (Pb) <0.50									
Molybdenum (Mo) <0.10 mg/kg 0.1 09-AUG-19 Nickel (Ni) <0.50									
Nickel (Ni) <0.50 mg/kg 0.5 09-AUG-19 Selenium (Se) <0.20									
Selenium (Se) <0.20 mg/kg 0.2 09-AUG-19 Silver (Ag) <0.10									
Silver (Ag) <0.10 mg/kg 0.1 09-AUG-19 Thallium (TI) <0.050									
Thallium (TT) <0.050 mg/kg 0.05 09-AUG-19 Uranium (U) <0.050									
Uranium (U) <0.050 mg/kg 0.05 09-AUG-19 Vanadium (V) <0.20									
Vanadium (V) <0.20 mg/kg 0.2 09-AUG-19 Zinc (Zn) <2.0 mg/kg 2 09-AUG-19 Batch R4759650 R4759650 WG3137385-2 CRM WT-CANMET-TILL1 VARIANDE CRIMINATION (Sb) 70-130 20-AUG-19 Arsenic (As) 99.0 % 70-130 20-AUG-19 Barium (Ba) 94.9 % 70-130 20-AUG-19 Beryllium (Be) 101.9 % 70-130 20-AUG-19 Boron (B) 3.3 mg/kg 0-8.2 20-AUG-19 Cadmium (Cd) 98.0 % 70-130 20-AUG-19 Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 %									09-AUG-19
Zinc (Zn) <2.0 mg/kg 2 09-AUG-19 Batch R4759650 WG3137385-2 CRM WT-CANMET-TILL1 CRM WT-CANMET-TILL1 VARIANDER TO									09-AUG-19
Batch R4759650 WG3137385-2 CRM Antimony (Sb) WT-CANMET-TILL1 Antimony (Sb) 70-130 20-AUG-19 Arsenic (As) 99.0 % 70-130 20-AUG-19 Barium (Ba) 94.9 % 70-130 20-AUG-19 Beryllium (Be) 101.9 % 70-130 20-AUG-19 Boron (B) 3.3 mg/kg 0-8.2 20-AUG-19 Cadmium (Cd) 98.0 % 70-130 20-AUG-19 Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									09-AUG-19
WG3137385-2 CRM WT-CANMET-TILL1 Antimony (Sb) 102.0 % 70-130 20-AUG-19 Arsenic (As) 99.0 % 70-130 20-AUG-19 Barium (Ba) 94.9 % 70-130 20-AUG-19 Beryllium (Be) 101.9 % 70-130 20-AUG-19 Boron (B) 3.3 mg/kg 0-8.2 20-AUG-19 Cadmium (Cd) 98.0 % 70-130 20-AUG-19 Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19	Zinc (Zn)			<2.0		mg/kg		2	09-AUG-19
Antimony (Sb) 102.0 % 70-130 20-AUG-19 Arsenic (As) 99.0 % 70-130 20-AUG-19 Barium (Ba) 94.9 % 70-130 20-AUG-19 Beryllium (Be) 101.9 % 70-130 20-AUG-19 Boron (B) 3.3 mg/kg 0-8.2 20-AUG-19 Cadmium (Cd) 98.0 % 70-130 20-AUG-19 Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19	Batch R4759650								
Arsenic (As) 99.0 % 70-130 20-AUG-19 Barium (Ba) 94.9 % 70-130 20-AUG-19 Beryllium (Be) 101.9 % 70-130 20-AUG-19 Boron (B) 3.3 mg/kg 0-8.2 20-AUG-19 Cadmium (Cd) 98.0 % 70-130 20-AUG-19 Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19			WT-CANMET-			0/			
Barium (Ba) 94.9 % 70-130 20-AUG-19 Beryllium (Be) 101.9 % 70-130 20-AUG-19 Boron (B) 3.3 mg/kg 0-8.2 20-AUG-19 Cadmium (Cd) 98.0 % 70-130 20-AUG-19 Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
Beryllium (Be) 101.9 % 70-130 20-AUG-19 Boron (B) 3.3 mg/kg 0-8.2 20-AUG-19 Cadmium (Cd) 98.0 % 70-130 20-AUG-19 Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
Boron (B) 3.3 mg/kg 0-8.2 20-AUG-19 Cadmium (Cd) 98.0 % 70-130 20-AUG-19 Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
Cadmium (Cd) 98.0 % 70-130 20-AUG-19 Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
Chromium (Cr) 105.8 % 70-130 20-AUG-19 Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
Cobalt (Co) 101.9 % 70-130 20-AUG-19 Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19	,								
Copper (Cu) 101.8 % 70-130 20-AUG-19 Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
Lead (Pb) 101.3 % 70-130 20-AUG-19 Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
Molybdenum (Mo) 98.3 % 70-130 20-AUG-19 Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
Nickel (Ni) 104.5 % 70-130 20-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
Selenium (Se) 0.29 mg/kg 0.11-0.51 20-AUG-19									
	, ,								
Silver (Ag) 0.24 mg/kg 0.13-0.33 20-AUG-19									
	Silver (Ag)			0.24		mg/kg		0.13-0.33	20-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							_
Batch R4759650)							
WG3137385-2 CRM Thallium (TI)		WT-CANMET	-TILL1 0.123		mg/kg		0.077-0.18	20-AUG-19
Uranium (U)			101.0		%		70-130	20-AUG-19
Vanadium (V)			102.0		%		70-130	20-AUG-19
Zinc (Zn)			100.4		%		70-130	20-AUG-19
WG3137385-6 DUP Antimony (Sb)		WG3137385- 5 0.23	5 0.24		ug/g	3.5	30	20-AUG-19
Arsenic (As)		3.01	2.93		ug/g	2.5	30	20-AUG-19
Barium (Ba)		72.1	70.3		ug/g	2.5	40	20-AUG-19
Beryllium (Be)		0.52	0.49		ug/g	5.9	30	20-AUG-19
Boron (B)		10.4	10.7		ug/g	3.3	30	20-AUG-19
Cadmium (Cd)		<0.50	<0.50	RPD-NA	ug/g	N/A	30	20-AUG-19
Chromium (Cr)		18.3	18.4		ug/g	0.5	30	20-AUG-19
Cobalt (Co)		5.88	5.72		ug/g	2.8	30	20-AUG-19
Copper (Cu)		17.2	16.7		ug/g	2.7	30	20-AUG-19
Lead (Pb)		20.1	19.1		ug/g	5.0	40	20-AUG-19
Molybdenum (Mo)		0.67	0.64		ug/g	5.0	40	20-AUG-19
Nickel (Ni)		14.1	13.9		ug/g	1.0	30	20-AUG-19
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	20-AUG-19
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	20-AUG-19
Thallium (TI)		0.106	0.108		ug/g	1.6	30	20-AUG-19
Uranium (U)		0.565	0.587		ug/g	3.9	30	20-AUG-19
Vanadium (V)		26.0	25.9		ug/g	0.6	30	20-AUG-19
Zinc (Zn)		90.9	93.4		ug/g	2.8	30	20-AUG-19
WG3137385-4 LCS Antimony (Sb)			99.0		%		80-120	20-AUG-19
Arsenic (As)			94.0		%		80-120	20-AUG-19
Barium (Ba)			94.6		%		80-120	20-AUG-19
Beryllium (Be)			92.2		%		80-120	20-AUG-19
Boron (B)			91.1		%		80-120	20-AUG-19
Cadmium (Cd)			93.0		%		80-120	20-AUG-19
Chromium (Cr)			94.4		%		80-120	20-AUG-19
Cobalt (Co)			94.5		%		80-120	20-AUG-19
Copper (Cu)			93.0		%		80-120	20-AUG-19



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MET-200.2-CCMS-WT Soil	
WG3137385-4 LCS Lead (Pb) 92.5 % 80.120 20.AUG-1 Molybdenum (Mo) 100.8 % 80.120 20.AUG-1 Nickel (Ni) 94.0 % 80-120 20.AUG-1 Selenium (Se) 92.0 % 80-120 20.AUG-1 Silver (Ag) 101.6 % 80-120 20.AUG-1 Thallium (TI) 88.9 % 80-120 20.AUG-1 Uranium (U) 95.9 % 80-120 20.AUG-1 Vanadium (V) 97.0 % 80-120 20.AUG-1 Zinc (Zn) 91.0 % 80-120 20.AUG-1 WG3137385-1 MB MB Antimony (Sb) 40.10 mg/kg 0.1 20.AUG-1 Arsenic (As) 40.10 mg/kg 0.1 20.AUG-1 Barium (Ba) 40.50 mg/kg 0.5 20.AUG-1 Beryllium (Be) 40.10 mg/kg 0.5 20.AUG-1 Borrium (Cd) 40.00 mg/kg 0.0	
Lead (Pb) 92.5 % 80-120 20-AUG-1 Molybdenum (Mo) 100.8 % 80-120 20-AUG-1 Nickel (Ni) 94.0 % 80-120 20-AUG-1 Selenium (Se) 92.0 % 80-120 20-AUG-1 Silver (Ag) 101.6 % 80-120 20-AUG-1 Thailium (TI) 88.9 % 80-120 20-AUG-1 Uranium (U) 95.9 % 80-120 20-AUG-1 Uranium (V) 97.0 % 80-120 20-AUG-1 Zinc (Zn) 91.0 % 80-120 20-AUG-1 WG3137385-1 MB Antimony (Sb) <0.10 mg/kg 0.1 20-AUG-1 Arsenic (As) <0.10 mg/kg 0.1 20-AUG-1 Barium (Ba) <0.50 mg/kg 0.1 20-AUG-1 Boron (B) <5.0 mg/kg 0.1 20-AUG-1 Boron (B) <5.0 mg/kg 0.1 20-AUG-1 Cadmium (Cd) <0.020 mg/kg 0.5 20-AUG-1 Cobalt (Co) <0.10 mg/kg 0.5 20-AUG-1 Cobalt (Co) <0.10 mg/kg 0.5 20-AUG-1 Copper (Cu) <0.50 mg/kg 0.5 20-AUG-1 Copper (Cu) <0.50 mg/kg 0.5 20-AUG-1 Molybdenum (Mo) <0.10 mg/kg 0.5 20-AUG-1 Molybdenum (Mo) <0.10 mg/kg 0.5 20-AUG-1 Nickel (Ni) <0.50 mg/kg 0.5 20-AUG-1 Nickel (Ni) <0.50 mg/kg 0.5 20-AUG-1 Nickel (Ni) <0.50 mg/kg 0.5 20-AUG-1 Selenium (Se) <0.20 mg/kg 0.5 20-AUG-1 Silver (Ag) <0.10 mg/kg 0.5 20-AUG-1 Silver (Ag) <0.10 mg/kg 0.5 20-AUG-1 Thaillium (TI) <0.050 mg/kg 0.5 20-AUG-1 Thaillium (TI) <0.050 mg/kg 0.5 20-AUG-1 Uranium (U) <0.050 mg/kg 0.05 20-AUG-	
Nickel (Ni) 94.0 % 80-120 20-AUG-1 Selenium (Se) 92.0 % 80-120 20-AUG-1 Silver (Ag) 101.6 % 80-120 20-AUG-1 Thallium (TI) 88.9 % 80-120 20-AUG-1 Uranium (U) 95.9 % 80-120 20-AUG-1 Vanadium (V) 97.0 % 80-120 20-AUG-1 Zinc (Zn) 91.0 % 80-120 20-AUG-1 WG3137385-1 MB N 80-120 20-AUG-1 Arsenic (As) <0.10	19
Selenium (Se) 92.0 % 80-120 20-AUG-1 Silver (Ag) 101.6 % 80-120 20-AUG-1 Thallium (TI) 88.9 % 80-120 20-AUG-1 Uranium (U) 95.9 % 80-120 20-AUG-1 Vanadium (V) 97.0 % 80-120 20-AUG-1 Zinc (Zn) 91.0 % 80-120 20-AUG-1 WG3137385-1 MB MB Antimony (Sb) Antimony (Sb) <0.10	19
Silver (Ag) 101.6 % 80-120 20-AUG-1 Thallium (TI) 88.9 % 80-120 20-AUG-1 Uranium (U) 95.9 % 80-120 20-AUG-1 Vanadium (V) 97.0 % 80-120 20-AUG-1 Zinc (Zn) 91.0 % 80-120 20-AUG-1 WG3137385-1 MB MB Antimony (Sb) <0.10	19
Thallium (TI) 88.9 % 80-120 20-AUG-1 Uranium (U) 95.9 % 80-120 20-AUG-1 Vanadium (V) 97.0 % 80-120 20-AUG-1 Zinc (Zn) 91.0 % 80-120 20-AUG-1 WG3137385-1 MB MB Antimony (Sb) <0.10	19
Uranium (U) 95.9 % 80-120 20-AUG-1 Vanadium (V) 97.0 % 80-120 20-AUG-1 Zinc (Zn) 91.0 % 80-120 20-AUG-1 WG3137385-1 MB MB Antimony (Sb) <0.10	19
Vanadium (V) 97.0 % 80-120 20-AUG-1 Zinc (Zn) 91.0 % 80-120 20-AUG-1 WG3137385-1 MB MB MS <	19
Zinc (Zn) 91.0 % 80-120 20-AUG-1 WG3137385-1 MB MB Antimony (Sb) <0.10 mg/kg 0.1 20-AUG-1 Arsenic (As) <0.10	19
WG3137385-1 MB Antimony (Sb) <0.10	19
Antimony (Sb) <0.10	19
Arsenic (As) <0.10	19
Beryllium (Be) <0.10	
Boron (B) <5.0	19
Cadmium (Cd) <0.020	19
Chromium (Cr) <0.50	19
Cobalt (Co) <0.10	19
Copper (Cu) <0.50	19
Lead (Pb) <0.50	19
Molybdenum (Mo) <0.10	19
Nickel (Ni) <0.50	19
Selenium (Se) <0.20	19
Silver (Ag) <0.10	19
Thallium (TI) <0.050	19
Uranium (U) <0.050 mg/kg 0.05 20-AUG-1	19
	19
Vanadium (V) <0.20 mg/kg 0.2 20-AUG-1	19
	19
Zinc (Zn) <2.0 mg/kg 2 20-AUG-1	19
MOISTURE-VA Soil	
Batch R4752360	
WG3131379-3 DUP L2318180-12 Moisture 10.2 10.7 % 4.8 20 13-AUG-10	19
WG3131379-2 LCS Moisture 99.95 % 90-110 13-AUG-10	19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-VA	Soil							
Batch R4752360								
WG3131379-1 MB Moisture			<0.25		%		0.25	13-AUG-19
MOISTURE-WT	Soil							
Batch R4728938								
WG3117670-3 DUP % Moisture		L2318180-12 10.3	10.0		%	2.2	20	29-JUL-19
WG3117670-2 LCS % Moisture			99.6		%		90-110	29-JUL-19
WG3117670-1 MB % Moisture			<0.10		%		0.1	29-JUL-19
Batch R4729471								
WG3117862-3 DUP % Moisture		L2318090-21 9.51	9.68		%	1.7	20	29-JUL-19
WG3117862-2 LCS % Moisture			98.0		%		90-110	29-JUL-19
WG3117862-1 MB % Moisture			<0.10		%		0.1	29-JUL-19
PAH-511-WT	Soil							
Batch R4730876								
WG3117773-3 DUP		WG3117773-5						
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	30-JUL-19
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	30-JUL-19
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	30-JUL-19
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	30-JUL-19
Anthracene		<0.050 <0.050	<0.050 <0.050	RPD-NA	ug/g	N/A	40	30-JUL-19
Benzo(a)anthracene Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	30-JUL-19
Benzo(a)pyrene Benzo(b)fluoranthene		<0.050	<0.050	RPD-NA RPD-NA	ug/g ug/g	N/A N/A	40	30-JUL-19
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA RPD-NA	ug/g ug/g	N/A N/A	40 40	30-JUL-19 30-JUL-19
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA RPD-NA	ug/g	N/A N/A	40	30-JUL-19 30-JUL-19
Chrysene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	30-JUL-19
Dibenzo(ah)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	30-JUL-19
Fluoranthene		<0.050	0.057	RPD-NA	ug/g	N/A	40	30-JUL-19
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	30-JUL-19
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	30-JUL-19
				10.5101	· 3 · 3	. 4/ .		55 55 2 15



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PAH-511-WT Soil Batch R4730876 WG3117773-5 RPD-NA ug/g N/A 40 Phenanthrene <0.046 0.056 RPD-NA ug/g N/A 40 Pyrene <0.050 <0.050 RPD-NA ug/g N/A 40 WG3117773-2 LCS 1-Methylnaphthalene 109.6 % 50-140 2-Methylnaphthalene 104.5 % 50-140 Acenaphthene 110.9 % 50-140 Acenaphthylene 108.1 % 50-140 Anthracene 108.1 % 50-140 Benzo(a)anthracene 108.3 % 50-140 Benzo(a)pyrene 104.1 % 50-140 Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene	
WG3117773-3 DUP Naphthalene WG3117773-5 RPD-NA ug/g N/A 40 Phenanthrene <0.046 0.056 RPD-NA ug/g N/A 40 Pyrene <0.050 <0.050 RPD-NA ug/g N/A 40 WG3117773-2 LCS LCS 50-140 1-Methylnaphthalene 109.6 % 50-140 50-140 2-Methylnaphthalene 104.5 % 50-140 50-140 Acenaphthene 110.9 % 50-140 50-140 Acenaphthylene 108.1 % 50-140 50-140 Anthracene 108.1 % 50-140 50-140 Benzo(a)pyrene 108.3 % 50-140 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 50-140 Benzo(k)fluoranthene 106.5 % 50-140 50-140 <th></th>	
Naphthalene <0.013	
Phenanthrene <0.046 0.056 RPD-NA ug/g N/A 40 Pyrene <0.050	
Pyrene <0.050 <0.050 RPD-NA ug/g N/A 40 WG3117773-2 LCS 1-Methylnaphthalene 109.6 % 50-140 2-Methylnaphthalene 104.5 % 50-140 Acenaphthene 110.9 % 50-140 Acenaphthylene 108.1 % 50-140 Anthracene 108.1 % 50-140 Benzo(a)anthracene 108.3 % 50-140 Benzo(a)pyrene 104.1 % 50-140 Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
WG3117773-2 LCS 1-Methylnaphthalene 109.6 % 50-140 2-Methylnaphthalene 104.5 % 50-140 Acenaphthene 110.9 % 50-140 Acenaphthylene 108.1 % 50-140 Anthracene 108.1 % 50-140 Benzo(a)anthracene 108.3 % 50-140 Benzo(a)pyrene 104.1 % 50-140 Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
1-Methylnaphthalene 109.6 % 50-140 2-Methylnaphthalene 104.5 % 50-140 Acenaphthene 110.9 % 50-140 Acenaphthylene 108.1 % 50-140 Anthracene 108.1 % 50-140 Benzo(a)anthracene 108.3 % 50-140 Benzo(a)pyrene 104.1 % 50-140 Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
2-Methylnaphthalene 104.5 % 50-140 Acenaphthene 110.9 % 50-140 Acenaphthylene 108.1 % 50-140 Anthracene 108.1 % 50-140 Benzo(a)anthracene 108.3 % 50-140 Benzo(a)pyrene 104.1 % 50-140 Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Acenaphthylene 108.1 % 50-140 Anthracene 108.1 % 50-140 Benzo(a)anthracene 108.3 % 50-140 Benzo(a)pyrene 104.1 % 50-140 Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Anthracene 108.1 % 50-140 Benzo(a)anthracene 108.3 % 50-140 Benzo(a)pyrene 104.1 % 50-140 Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Benzo(a)anthracene 108.3 % 50-140 Benzo(a)pyrene 104.1 % 50-140 Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Benzo(a)pyrene 104.1 % 50-140 Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Benzo(b)fluoranthene 111.3 % 50-140 Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Benzo(g,h,i)perylene 86.7 % 50-140 Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Benzo(k)fluoranthene 106.5 % 50-140 Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Chrysene 117.1 % 50-140 Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Dibenzo(ah)anthracene 74.8 % 50-140 Fluoranthene 106.3 % 50-140	30-JUL-19
Fluoranthene 106.3 % 50-140	30-JUL-19
	30-JUL-19
Fluorene 109.4 % 50-140	30-JUL-19
	30-JUL-19
Indeno(1,2,3-cd)pyrene 84.1 % 50-140	30-JUL-19
Naphthalene 108.8 % 50-140	30-JUL-19
Phenanthrene 113.3 % 50-140	30-JUL-19
Pyrene 105.2 % 50-140	30-JUL-19
WG3117773-1 MB	
1-Methylnaphthalene <0.030 ug/g 0.03	30-JUL-19
2-Methylnaphthalene <0.030 ug/g 0.03	30-JUL-19
Acenaphthene <0.050 ug/g 0.05	30-JUL-19
Acenaphthylene <0.050 ug/g 0.05	30-JUL-19
Anthracene <0.050 ug/g 0.05	30-JUL-19
Benzo(a)anthracene <0.050 ug/g 0.05	30-JUL-19
Benzo(a)pyrene <0.050 ug/g 0.05	30-JUL-19
Benzo(b)fluoranthene <0.050 ug/g 0.05	30-JUL-19
Benzo(g,h,i)perylene <0.050 ug/g 0.05	30-JUL-19
Benzo(k)fluoranthene <0.050 ug/g 0.05	30-JUL-19
Chrysene <0.050 ug/g 0.05	30-JUL-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R473087	6							
WG3117773-1 MB	_		0.050				0.05	
Dibenzo(ah)anthracen Fluoranthene	е		<0.050		ug/g		0.05 0.05	30-JUL-19
			<0.050		ug/g			30-JUL-19
Fluorene	•		<0.050		ug/g		0.05	30-JUL-19
Indeno(1,2,3-cd)pyren	е		<0.050		ug/g		0.05	30-JUL-19
Naphthalene			<0.013		ug/g		0.013	30-JUL-19
Phenanthrene			<0.046		ug/g		0.046	30-JUL-19
Pyrene			<0.050		ug/g		0.05	30-JUL-19
Surrogate: 2-Fluorobip	-		99.5		%		50-140	30-JUL-19
Surrogate: p-Terpheny	/l d14		80.0		%		50-140	30-JUL-19
WG3117773-4 MS 1-Methylnaphthalene		WG3117773-5	101.2		%		50-140	30-JUL-19
2-Methylnaphthalene			96.2		%		50-140	30-JUL-19
Acenaphthene			101.7		%		50-140	30-JUL-19
Acenaphthylene			103.2		%		50-140	30-JUL-19
Anthracene			101.6		%		50-140	30-JUL-19
Benzo(a)anthracene			105.0		%		50-140	30-JUL-19
Benzo(a)pyrene			95.8		%		50-140	30-JUL-19
Benzo(b)fluoranthene			107.5		%		50-140	30-JUL-19
Benzo(g,h,i)perylene			95.4		%		50-140	30-JUL-19
Benzo(k)fluoranthene			89.7		%		50-140	30-JUL-19
Chrysene			107.3		%		50-140	30-JUL-19
Dibenzo(ah)anthracen	е		89.5		%		50-140	30-JUL-19
Fluoranthene			106.9		%		50-140	30-JUL-19
Fluorene			98.1		%		50-140	30-JUL-19
Indeno(1,2,3-cd)pyren	е		92.0		%		50-140	30-JUL-19
Naphthalene			99.8		%		50-140	30-JUL-19
Phenanthrene			105.0		%		50-140	30-JUL-19
Pyrene			106.6		%		50-140	30-JUL-19
Batch R474556	4							
WG3124840-3 DUP		WG3124840-5						
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	09-AUG-19
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	09-AUG-19
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	09-AUG-19



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est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4745564								
WG3124840-3 DUP		WG3124840-						
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Benzo(b)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Benzo(g,h,i)perylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Benzo(k)fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Chrysene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Dibenzo(ah)anthracene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Fluorene		< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Indeno(1,2,3-cd)pyrene		< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	09-AUG-19
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	09-AUG-19
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	09-AUG-19
WG3124840-2 LCS								
1-Methylnaphthalene			105.6		%		50-140	09-AUG-19
2-Methylnaphthalene			99.8		%		50-140	09-AUG-19
Acenaphthene			107.5		%		50-140	09-AUG-19
Acenaphthylene			112.2		%		50-140	09-AUG-19
Anthracene			106.6		%		50-140	09-AUG-19
Benzo(a)anthracene			109.7		%		50-140	09-AUG-19
Benzo(a)pyrene			106.3		%		50-140	09-AUG-19
Benzo(b)fluoranthene			99.7		%		50-140	09-AUG-19
Benzo(g,h,i)perylene			106.1		%		50-140	09-AUG-19
Benzo(k)fluoranthene			108.5		%		50-140	09-AUG-19
Chrysene			109.4		%		50-140	09-AUG-19
Dibenzo(ah)anthracene			109.1		%		50-140	09-AUG-19
Fluoranthene			104.6		%		50-140	09-AUG-19
Fluorene			106.2		%		50-140	09-AUG-19
Indeno(1,2,3-cd)pyrene			112.2		%		50-140	09-AUG-19
Naphthalene			101.6		%		50-140	09-AUG-19
Phenanthrene			105.4		%		50-140	09-AUG-19
Pyrene			104.6		%		50-140	09-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4745564								
WG3124840-1 MB 1-Methylnaphthalene			<0.030		ug/g		0.03	09-AUG-19
2-Methylnaphthalene			<0.030		ug/g		0.03	09-AUG-19
Acenaphthene			<0.050		ug/g		0.05	09-AUG-19
Acenaphthylene			<0.050		ug/g		0.05	09-AUG-19
Anthracene			<0.050		ug/g		0.05	09-AUG-19
Benzo(a)anthracene			<0.050		ug/g		0.05	09-AUG-19
Benzo(a)pyrene			<0.050		ug/g		0.05	09-AUG-19
Benzo(b)fluoranthene			<0.050		ug/g		0.05	09-AUG-19
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	09-AUG-19
Benzo(k)fluoranthene			<0.050		ug/g		0.05	09-AUG-19
Chrysene			<0.050		ug/g		0.05	09-AUG-19
Dibenzo(ah)anthracene			<0.050		ug/g		0.05	09-AUG-19
Fluoranthene			<0.050		ug/g		0.05	09-AUG-19
Fluorene			<0.050		ug/g		0.05	09-AUG-19
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	09-AUG-19
Naphthalene			<0.013		ug/g		0.013	09-AUG-19
Phenanthrene			<0.046		ug/g		0.046	09-AUG-19
Pyrene			<0.050		ug/g		0.05	09-AUG-19
Surrogate: 2-Fluorobiphe	enyl		106.6		%		50-140	09-AUG-19
Surrogate: p-Terphenyl d	114		93.4		%		50-140	09-AUG-19
WG3124840-4 MS		WG3124840-5	5					
1-Methylnaphthalene			105.8		%		50-140	09-AUG-19
2-Methylnaphthalene			99.8		%		50-140	09-AUG-19
Acenaphthene			107.2		%		50-140	09-AUG-19
Acenaphthylene			109.7		%		50-140	09-AUG-19
Anthracene			105.9		%		50-140	09-AUG-19
Benzo(a)anthracene			108.4		%		50-140	09-AUG-19
Benzo(a)pyrene			105.8		%		50-140	09-AUG-19
Benzo(b)fluoranthene			103.7		%		50-140	09-AUG-19
Benzo(g,h,i)perylene			105.4		%		50-140	09-AUG-19
Benzo(k)fluoranthene			105.7		%		50-140	09-AUG-19
Chrysene			110.2		%		50-140	09-AUG-19
Dibenzo(ah)anthracene			107.3		%		50-140	09-AUG-19
Fluoranthene			104.2		%			



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4745564								
WG3124840-4 MS		WG3124840-5			%		50.440	00.4110.40
Fluorene			104.9				50-140	09-AUG-19
Indeno(1,2,3-cd)pyrene			111.9		%		50-140	09-AUG-19
Naphthalene			101.8		%		50-140	09-AUG-19
Phenanthrene			105.8		%		50-140	09-AUG-19
Pyrene			104.3		%		50-140	09-AUG-19
Batch R4758787								
WG3130786-3 DUP 1-Methylnaphthalene		WG3130786-5 < 0.030	<0.030	RPD-NA	ug/g	N/A	40	19-AUG-19
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	19-AUG-19
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(b)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Chrysene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Dibenzo(ah)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	19-AUG-19
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	19-AUG-19
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
WG3130786-2 LCS						•		-
1-Methylnaphthalene			98.2		%		50-140	19-AUG-19
2-Methylnaphthalene			93.0		%		50-140	19-AUG-19
Acenaphthene			98.6		%		50-140	19-AUG-19
Acenaphthylene			102.1		%		50-140	19-AUG-19
Anthracene			101.3		%		50-140	19-AUG-19
Benzo(a)anthracene			103.5		%		50-140	19-AUG-19
Benzo(a)pyrene			101.2		%		50-140	19-AUG-19



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est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4758787								
WG3130786-2 LCS Benzo(b)fluoranthene			97.6		%		50.440	40.440.40
Benzo(g,h,i)perylene			96.8		%		50-140	19-AUG-19
			107.0		%		50-140	19-AUG-19
Benzo(k)fluoranthene			107.3		%		50-140	19-AUG-19
Chrysene			95.8		%		50-140	19-AUG-19
Dibenzo(ah)anthracene Fluoranthene					%		50-140	19-AUG-19
			99.3				50-140	19-AUG-19
Fluorene			96.3		%		50-140	19-AUG-19
Indeno(1,2,3-cd)pyrene			93.8		%		50-140	19-AUG-19
Naphthalene			98.0		%		50-140	19-AUG-19
Phenanthrene			101.2		%		50-140	19-AUG-19
Pyrene			99.8		%		50-140	19-AUG-19
WG3130786-1 MB 1-Methylnaphthalene			<0.030		ug/g		0.03	19-AUG-19
2-Methylnaphthalene			<0.030		ug/g		0.03	19-AUG-19
Acenaphthene			< 0.050		ug/g		0.05	19-AUG-19
Acenaphthylene			< 0.050		ug/g		0.05	19-AUG-19
Anthracene			< 0.050		ug/g		0.05	19-AUG-19
Benzo(a)anthracene			< 0.050		ug/g		0.05	19-AUG-19
Benzo(a)pyrene			< 0.050		ug/g		0.05	19-AUG-19
Benzo(b)fluoranthene			< 0.050		ug/g		0.05	19-AUG-19
Benzo(g,h,i)perylene			< 0.050		ug/g		0.05	19-AUG-19
Benzo(k)fluoranthene			< 0.050		ug/g		0.05	19-AUG-19
Chrysene			<0.050		ug/g		0.05	19-AUG-19
Dibenzo(ah)anthracene			< 0.050		ug/g		0.05	19-AUG-19
Fluoranthene			<0.050		ug/g		0.05	19-AUG-19
Fluorene			<0.050		ug/g		0.05	19-AUG-19
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	19-AUG-19
Naphthalene			<0.013		ug/g		0.013	19-AUG-19
Phenanthrene			<0.046		ug/g		0.046	19-AUG-19
Pyrene			<0.050		ug/g		0.05	19-AUG-19
Surrogate: 2-Fluorobiphe	enyl		99.0		%		50-140	19-AUG-19
Surrogate: p-Terphenyl d	114		88.1		%		50-140	19-AUG-19
WG3130786-4 MS 1-Methylnaphthalene		WG3130786-5	98.2		%		50-140	19-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4758787								
WG3130786-4 MS		WG3130786-			0/			
2-Methylnaphthalene			93.2		%		50-140	19-AUG-19
Acenaphthene			99.0		%		50-140	19-AUG-19
Acthoraca			101.2		%		50-140	19-AUG-19
Anthracene			100.1		%		50-140	19-AUG-19
Benzo(a)anthracene			103.8		%		50-140	19-AUG-19
Benzo(a)pyrene			101.9		%		50-140	19-AUG-19
Benzo(b)fluoranthene			107.9		%		50-140	19-AUG-19
Benzo(g,h,i)perylene			96.5		%		50-140	19-AUG-19
Benzo(k)fluoranthene			116.2		%		50-140	19-AUG-19
Chrysene			108.8		%		50-140	19-AUG-19
Dibenzo(ah)anthracene			94.6		%		50-140	19-AUG-19
Fluoranthene			100.8		%		50-140	19-AUG-19
Fluorene			99.6		%		50-140	19-AUG-19
Indeno(1,2,3-cd)pyrene			91.8		%		50-140	19-AUG-19
Naphthalene			99.0		%		50-140	19-AUG-19
Phenanthrene			102.5		%		50-140	19-AUG-19
Pyrene			100.9		%		50-140	19-AUG-19
PCB-511-WT	Soil							
Batch R4732569								
WG3117773-3 DUP		WG3117773-			/			
Aroclor 1242		<0.010	<0.010	RPD-NA	ug/g ,	N/A	40	31-JUL-19
Aroclor 1248		<0.010	<0.010	RPD-NA	ug/g	N/A	40	31-JUL-19
Aroclor 1254		<0.010	<0.010	RPD-NA	ug/g	N/A	40	31-JUL-19
Aroclor 1260		<0.010	<0.010	RPD-NA	ug/g	N/A	40	31-JUL-19
WG3117773-2 LCS Aroclor 1242			107.7		%		60-140	31-JUL-19
Aroclor 1248			102.6		%		60-140	31-JUL-19
Aroclor 1254			109.2		%		60-140	31-JUL-19
Aroclor 1260			108.1		%		60-140	31-JUL-19
WG3117773-1 MB								
Aroclor 1242			<0.010		ug/g		0.01	31-JUL-19
Aroclor 1248			<0.010		ug/g		0.01	31-JUL-19
Aroclor 1254			<0.010		ug/g		0.01	31-JUL-19
Aroclor 1260			<0.010		ug/g		0.01	31-JUL-19



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Contact: VICTORIA PETERS

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-511-WT	Soil							
Batch R4732 WG3117773-1 Mi Surrogate: d14-Terp	В		89.2		%		60-140	31-JUL-19
WG3117773-4 M S Aroclor 1242	5	WG3117773-	5 113.1		%		60-140	31-JUL-19
Aroclor 1254			114.9		%		60-140	31-JUL-19
Aroclor 1260			113.1		%		60-140	31-JUL-19
PH-WT	Soil							
Batch R4738	711							
WG3119324-1 DU pH	JP	L2318180-9 7.83	7.89	J	pH units	0.06	0.3	02-AUG-19
WG3121365-1 LC pH	cs		6.99		pH units		6.9-7.1	02-AUG-19
Batch R4744	524							
	JP	L2321692-3 8.01	8.05	J	pH units	0.04	0.3	08-AUG-19
WG3127202-1 LC pH	cs		7.02		pH units		6.9-7.1	08-AUG-19
Batch R4756	893							
WG3130270-1 D I	JP	L2326037-18 7.86	7.88	J	pH units	0.02	0.3	15-AUG-19
WG3133651-1 LC pH	cs .		7.00		pH units		6.9-7.1	15-AUG-19
SAR-R511-WT	Soil							
Batch R4737	469							
WG3122391-4 DI Calcium (Ca)	JP	WG3122391 -	3 42.4		mg/L	3.7	30	02-AUG-19
Sodium (Na)		32.4	32.2		mg/L	0.6	30	02-AUG-19 02-AUG-19
Magnesium (Mg)		4.85	4.71		mg/L	2.9	30	02-AUG-19
WG3122391-2 IR	M	WT SAR3			Ü			027.00 10
Calcium (Ca)			97.6		%		70-130	02-AUG-19
Sodium (Na)			106.3		%		70-130	02-AUG-19
Magnesium (Mg)			101.1		%		70-130	02-AUG-19
WG3122391-5 LC Calcium (Ca)	cs		102.3		%		70-130	02-AUG-19
Sodium (Na)			97.4		%		70-130	02-AUG-19
Magnesium (Mg)			97.0		%		70-130	02-AUG-19
WG3122391-1 M	В							



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SAR-R511-WT									Analyzed
SAK-KSTI-WI		Soil							
Batch R47	737469								
WG3122391-1 Calcium (Ca)	MB			<0.50		mg/L		0.5	02-AUG-19
Sodium (Na)				< 0.50		mg/L		0.5	02-AUG-19
Magnesium (Mg)			<0.50		mg/L		0.5	02-AUG-19
Batch R47	737489								
WG3122393-4 Calcium (Ca)	DUP		WG3122393 - 1.95	-3 1.39	J	mg/L	0.56	1	02-AUG-19
Sodium (Na)			48.3	48.8		mg/L	1.0	30	02-AUG-19
Magnesium (Mg)		1.28	0.57	J	mg/L	0.71	1	02-AUG-19
WG3122393-2 Calcium (Ca)	IRM		WT SAR3	99.6		%		70-130	02-AUG-19
Sodium (Na)				103.2		%		70-130	02-AUG-19
Magnesium (Mg)			101.6		%		70-130	02-AUG-19
WG3122393-5 Calcium (Ca)	LCS			106.0		%		70-130	02-AUG-19
Sodium (Na)				101.0		%		70-130	02-AUG-19
Magnesium (Mg)			100.8		%		70-130	02-AUG-19
WG3122393-1 Calcium (Ca)	МВ			<0.50		mg/L		0.5	02-AUG-19
Sodium (Na)				<0.50		mg/L		0.5	02-AUG-19 02-AUG-19
Magnesium (Mg)			<0.50		mg/L		0.5	02-AUG-19
Batch R47	739784								
WG3124169-4	DUP		WG3124169						
Calcium (Ca)			33.1	33.8		mg/L	2.1	30	06-AUG-19
Sodium (Na)			37.0	36.7		mg/L	0.8	30	06-AUG-19
Magnesium (Mg			2.75	2.80		mg/L	1.8	30	06-AUG-19
WG3124169-2 Calcium (Ca)	IRM		WT SAR3	100.8		%		70-130	06-AUG-19
Sodium (Na)				104.0		%		70-130	06-AUG-19
Magnesium (Mg)			103.2		%		70-130	06-AUG-19
WG3124169-5 Calcium (Ca)	LCS			106.3		%		70-130	06-AUG-19
Sodium (Na)				99.8		%		70-130	06-AUG-19
Magnesium (Mg)			100.6		%		70-130	06-AUG-19
WG3124169-1	MB							70-100	00 7.00-10
Calcium (Ca)	2			<0.50		mg/L		0.5	06-AUG-19



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Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT		Soil							
Batch R47	39784								
WG3124169-1 Sodium (Na)	MB			<0.50		mg/L		0.5	06-AUG-19
Magnesium (Mg)				<0.50		mg/L		0.5	06-AUG-19
Batch R47	46826								
	DUP		WG3128641-3						
Calcium (Ca)			41.0	41.8		mg/L	1.9	30	12-AUG-19
Sodium (Na)			4.69	4.78		mg/L	1.9	30	12-AUG-19
Magnesium (Mg)			2.15	2.23		mg/L	3.7	30	12-AUG-19
WG3128641-2 Calcium (Ca)	IRM		WT SAR3	92.1		%		70-130	12-AUG-19
Sodium (Na)				97.0		%		70-130	12-AUG-19
Magnesium (Mg)				94.6		%		70-130	12-AUG-19
WG3128641-5	LCS								
Calcium (Ca)				105.3		%		70-130	12-AUG-19
Sodium (Na)				99.0		%		70-130	12-AUG-19
Magnesium (Mg)				100.0		%		70-130	12-AUG-19
WG3128641-1 Calcium (Ca)	MB			<0.50		mg/L		0.5	12-AUG-19
Sodium (Na)				<0.50		mg/L		0.5	12-AUG-19
Magnesium (Mg)				<0.50		mg/L		0.5	12-AUG-19
Batch R47	60069								
	DUP		WG3137412-3						
Calcium (Ca)			630	622		mg/L	1.3	30	20-AUG-19
Sodium (Na)			175	177		mg/L	1.1	30	20-AUG-19
Magnesium (Mg)			99.6	99.5		mg/L	0.1	30	20-AUG-19
WG3137412-2 Calcium (Ca)	IRM		WT SAR3	97.6		%		70-130	20-AUG-19
Sodium (Na)				100.1		%		70-130	20-AUG-19 20-AUG-19
Magnesium (Mg)				99.5		%		70-130	20-AUG-19
	LCS								_37.50 10
Calcium (Ca)				105.0		%		70-130	20-AUG-19
Sodium (Na)				99.0		%		70-130	20-AUG-19
Magnesium (Mg)				100.2		%		70-130	20-AUG-19
	MB			0.50				0.5	
Calcium (Ca)				<0.50		mg/L		0.5	20-AUG-19
Sodium (Na)				<0.50		mg/L		0.5	20-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT	Soil							
Batch R4760069 WG3137412-1 MB Magnesium (Mg)	3011		<0.50		mg/L		0.5	20-AUG-19
TOC-R511-WT	Soil							
Batch R4735333 WG3121442-3 CRM Total Organic Carbon		WT-TOC-CRM	103.7		%		70-130	01-AUG-19
WG3121442-4 DUP Total Organic Carbon		L2318180-1 1.19	1.15		%	3.2	35	01-AUG-19
WG3121442-2 LCS Total Organic Carbon			110.0		%		80-120	01-AUG-19
Total Organic Carbon			110.0		%		80-120	01-AUG-19
Total Organic Carbon			110.0		%		80-120	01-AUG-19
WG3121442-1 MB Total Organic Carbon			<0.10		%		0.1	01-AUG-19
Batch R4759174 WG3136812-3 CRM Total Organic Carbon		WT-TOC-CRM	91.2		%		70-130	19-AUG-19
WG3136812-4 DUP Total Organic Carbon		L2318180-5 0.10	0.11		%	11	35	19-AUG-19
WG3136812-2 LCS Total Organic Carbon			104.7		%		80-120	19-AUG-19
Total Organic Carbon			104.7		%		80-120	19-AUG-19
Total Organic Carbon			104.7		%		80-120	19-AUG-19
WG3136812-1 MB Total Organic Carbon			<0.10		%		0.1	19-AUG-19
Batch R4761956								
WG3137881-3 CRM Total Organic Carbon		WT-TOC-CRM	93.4		%		70-130	20-AUG-19
WG3137881-4 DUP Total Organic Carbon		L2329061-1 <0.10	0.11	RPD-NA	%	N/A	35	20-AUG-19
WG3137881-2 LCS Total Organic Carbon			102.4		%		80-120	20-AUG-19
Total Organic Carbon			102.4		%		80-120	20-AUG-19
Total Organic Carbon			102.4		%		80-120	20-AUG-19
WG3137881-1 MB Total Organic Carbon			<0.10		%		0.1	20-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R473	37203							
	DUP	WG3121780		555				
1,1,1,2-Tetrachlor		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,1,2,2-Tetrachlor		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,1,1-Trichloroeth		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,1,2-Trichloroeth		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,1-Dichloroethan		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,1-Dichloroethyle		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,2-Dibromoethar		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,2-Dichlorobenze		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,2-Dichloroethan		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,2-Dichloropropa		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,3-Dichlorobenze		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
1,4-Dichlorobenze	ene	<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	02-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	02-AUG-19
Bromodichlorome	thane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Carbon tetrachlor	ide	<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
cis-1,2-Dichloroet	hylene	<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
cis-1,3-Dichloropr	ropene	< 0.030	<0.030	RPD-NA	ug/g	N/A	40	02-AUG-19
Dibromochlorome	ethane	< 0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Dichlorodifluorom	ethane	< 0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	02-AUG-19
n-Hexane		< 0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Methylene Chloric	de	< 0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
MTBE		< 0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
m+p-Xylenes		< 0.030	<0.030	RPD-NA	ug/g	N/A	40	02-AUG-19
Methyl Ethyl Keto	ne	<0.50	<0.50	RPD-NA	ug/g	N/A	40	02-AUG-19
Methyl Isobutyl Ke	etone	<0.50	<0.50	RPD-NA	ug/g	N/A	40	02-AUG-19
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	02-AUG-19
Styrene		<0.050	<0.050		ug/g			02-AUG-19
					•			



Workorder: L2318180 Report Date: 27-AUG-19 Page 35 of 40

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4737203								
WG3121780-4 DUP Styrene		WG3121780-3 < 0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Tetrachloroethylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	02-AUG-19
trans-1,2-Dichloroethyler	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
trans-1,3-Dichloroproper	ne	<0.030	<0.030	RPD-NA	ug/g	N/A	40	02-AUG-19
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	02-AUG-19
Trichlorofluoromethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	02-AUG-19
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	02-AUG-19
WG3121780-2 LCS 1,1,1,2-Tetrachloroethan	ıe.		113.1		%		60-130	02-AUG-19
1,1,2,2-Tetrachloroethan			93.5		%		60-130	02-AUG-19
1,1,1-Trichloroethane			110.1		%		60-130	02-AUG-19
1,1,2-Trichloroethane			103.3		%		60-130	02-AUG-19
1,1-Dichloroethane			109.7		%		60-130	02-AUG-19
1,1-Dichloroethylene			112.0		%		60-130	02-AUG-19
1,2-Dibromoethane			100.8		%		70-130	02-AUG-19
1,2-Dichlorobenzene			112.5		%		70-130	02-AUG-19
1,2-Dichloroethane			99.3		%		60-130	02-AUG-19
1,2-Dichloropropane			106.7		%		70-130	02-AUG-19
1,3-Dichlorobenzene			117.1		%		70-130	02-AUG-19
1,4-Dichlorobenzene			116.4		%		70-130	02-AUG-19
Acetone			94.8		%		60-140	02-AUG-19
Benzene			114.4		%		70-130	02-AUG-19
Bromodichloromethane			103.8		%		50-140	02-AUG-19
Bromoform			100.8		%		70-130	02-AUG-19
Bromomethane			99.4		%		50-140	02-AUG-19
Carbon tetrachloride			112.4		%		70-130	02-AUG-19
Chlorobenzene			111.4		%		70-130	02-AUG-19
Chloroform			109.5		%		70-130	02-AUG-19
cis-1,2-Dichloroethylene			111.2		%		70-130	02-AUG-19
cis-1,3-Dichloropropene			104.2		%		70-130	02-AUG-19
Dibromochloromethane			103.8		%		60-130	02-AUG-19
Dichlorodifluoromethane			82.7		%		50-140	02-AUG-19



Workorder: L2318180 Report Date: 27-AUG-19 Page 36 of 40

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4737203								
WG3121780-2 LCS			440.4		0/		70.400	
Ethylbenzene n-Hexane			116.1 107.6		%		70-130	02-AUG-19
			107.8		%		70-130	02-AUG-19
Methylene Chloride MTBE			113.8		%		70-130	02-AUG-19
			111.1		%		70-130	02-AUG-19
m+p-Xylenes Methyl Ethyl Ketone			87.8		%		70-130	02-AUG-19
					%		60-140	02-AUG-19
Methyl Isobutyl Ketone			81.4 112.7				60-140	02-AUG-19
o-Xylene			110.9		%		70-130	02-AUG-19
Styrene							70-130	02-AUG-19
Tetrachloroethylene Toluene			118.8		%		60-130	02-AUG-19
			116.7		%		70-130	02-AUG-19
trans-1,2-Dichloroethyler			111.4		%		60-130	02-AUG-19
trans-1,3-Dichloropropen	ie		102.3 115.2				70-130	02-AUG-19
Trichloroethylene Trichlorofluoromethane			115.2		%		60-130	02-AUG-19
Vinyl chloride					%		50-140	02-AUG-19
•			112.3		70		60-140	02-AUG-19
WG3121780-1 MB 1,1,1,2-Tetrachloroethan	е		<0.050		ug/g		0.05	02-AUG-19
1,1,2,2-Tetrachloroethan	е		<0.050		ug/g		0.05	02-AUG-19
1,1,1-Trichloroethane			<0.050		ug/g		0.05	02-AUG-19
1,1,2-Trichloroethane			<0.050		ug/g		0.05	02-AUG-19
1,1-Dichloroethane			<0.050		ug/g		0.05	02-AUG-19
1,1-Dichloroethylene			<0.050		ug/g		0.05	02-AUG-19
1,2-Dibromoethane			<0.050		ug/g		0.05	02-AUG-19
1,2-Dichlorobenzene			<0.050		ug/g		0.05	02-AUG-19
1,2-Dichloroethane			<0.050		ug/g		0.05	02-AUG-19
1,2-Dichloropropane			< 0.050		ug/g		0.05	02-AUG-19
1,3-Dichlorobenzene			< 0.050		ug/g		0.05	02-AUG-19
1,4-Dichlorobenzene			<0.050		ug/g		0.05	02-AUG-19
Acetone			<0.50		ug/g		0.5	02-AUG-19
Benzene			<0.0068		ug/g		0.0068	02-AUG-19
Bromodichloromethane			<0.050		ug/g		0.05	02-AUG-19
Bromoform			< 0.050		ug/g		0.05	02-AUG-19
Bromomethane			< 0.050		ug/g		0.05	02-AUG-19



Workorder: L2318180 Report Date: 27-AUG-19 Page 37 of 40

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Seath R473720 Seath R47372	Test M	latrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Carbon tetrachloride	VOC-511-HS-WT S	Soil							
Carbon tetrachloride <0.050 ug/g 0.05 02-AUG-19 Chlorobenzene <0.050	Batch R4737203								
Chlorobenzene <0.050 ug/g 0.05 02-AUG-19 Chloroform <0.050				<0.050		ua/a		0.05	02 ALIC 10
Chloroform									
cis-1,2-Dichloroethylene <0.050									
cis-1,3-Dichloropropene <0.030									
Dibromochloromethane <0.050 ug/g 0.05 02-AUG-19 Dichlorodifluoromethane <0.050	•								
Dichlorodiffluoromethane <0.050									
Ethylbenzene									
n-Hexane									
Methylene Chloride <0.050 ug/g 0.05 02-AUG-19 MTBE <0.050	•								
MTBE <0.050 ug/g 0.05 02-AUG-19 m+p-Xylenes <0.030									
m+p-Xylenes <0.030 ug/g 0.03 02-AUG-19 Methyl Ethyl Ketone <0.50	•								
Methyl Ethyl Ketone 0.5 02-AUG-19 Methyl Isobutyl Ketone <0.50									
Methyl Isobutyl Ketone <0.50									
o-Xylene <0.020									
Styrene <0.050 ug/g 0.05 02-AUG-19 Tetrachloroethylene <0.050									
Tetrachloroethylene <0.050 ug/g 0.05 02-AUG-19 Toluene <0.080	•								
Toluene <	•								
trans-1,2-Dichloroethylene	•								
trans-1,3-Dichloropropene <0.030	trans-1,2-Dichloroethylene							0.05	
Trichloroethylene <0.010 ug/g 0.01 02-AUG-19 Trichlorofluoromethane <0.050	·			< 0.030				0.03	
Trichlorofluoromethane <0.050 ug/g 0.05 02-AUG-19 Vinyl chloride <0.020				<0.010				0.01	
Vinyl chloride <0.020 ug/g 0.02 02-AUG-19 Surrogate: 1,4-Difluorobenzene 111.7 % 50-140 02-AUG-19 Surrogate: 4-Bromofluorobenzene 92.8 % 50-140 02-AUG-19 WG3121780-5 MS L2318180-1 50-140 02-AUG-19 1,1,1,2-Tetrachloroethane 115.0 % 50-140 02-AUG-19 1,1,2-Tetrachloroethane 94.5 % 50-140 02-AUG-19 1,1,1-Trichloroethane 111.9 % 50-140 02-AUG-19 1,1,2-Trichloroethane 104.4 % 50-140 02-AUG-19 1,1-Dichloroethane 111.1 % 50-140 02-AUG-19 1,1-Dichloroethylene 113.5 % 50-140 02-AUG-19 1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	Trichlorofluoromethane			< 0.050				0.05	
Surrogate: 1,4-Difluorobenzene 111.7 % 50-140 02-AUG-19 Surrogate: 4-Bromofluorobenzene 92.8 % 50-140 02-AUG-19 WG3121780-5 MS L2318180-1 50-140 02-AUG-19 1,1,2-Tetrachloroethane 115.0 % 50-140 02-AUG-19 1,1,2-Tetrachloroethane 111.9 % 50-140 02-AUG-19 1,1,2-Trichloroethane 104.4 % 50-140 02-AUG-19 1,1-Dichloroethane 111.1 % 50-140 02-AUG-19 1,1-Dichloroethylene 113.5 % 50-140 02-AUG-19 1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	Vinyl chloride			<0.020		ug/g		0.02	
WG3121780-5 MS L2318180-1 1,1,1,2-Tetrachloroethane 115.0 % 50-140 02-AUG-19 1,1,2,2-Tetrachloroethane 94.5 % 50-140 02-AUG-19 1,1,1-Trichloroethane 111.9 % 50-140 02-AUG-19 1,1,2-Trichloroethane 104.4 % 50-140 02-AUG-19 1,1-Dichloroethane 111.1 % 50-140 02-AUG-19 1,1-Dichloroethylene 113.5 % 50-140 02-AUG-19 1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	Surrogate: 1,4-Difluorobenz	zene		111.7				50-140	
1,1,1,2-Tetrachloroethane 115.0 % 50-140 02-AUG-19 1,1,2,2-Tetrachloroethane 94.5 % 50-140 02-AUG-19 1,1,1-Trichloroethane 111.9 % 50-140 02-AUG-19 1,1,2-Trichloroethane 104.4 % 50-140 02-AUG-19 1,1-Dichloroethane 111.1 % 50-140 02-AUG-19 1,1-Dichloroethylene 113.5 % 50-140 02-AUG-19 1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	Surrogate: 4-Bromofluorobe	enzene		92.8		%		50-140	02-AUG-19
1,1,2,2-Tetrachloroethane 94.5 % 50-140 02-AUG-19 1,1,1-Trichloroethane 111.9 % 50-140 02-AUG-19 1,1,2-Trichloroethane 104.4 % 50-140 02-AUG-19 1,1-Dichloroethane 111.1 % 50-140 02-AUG-19 1,1-Dichloroethylene 113.5 % 50-140 02-AUG-19 1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	WG3121780-5 MS		L2318180-1						
1,1,1-Trichloroethane 111.9 % 50-140 02-AUG-19 1,1,2-Trichloroethane 104.4 % 50-140 02-AUG-19 1,1-Dichloroethane 111.1 % 50-140 02-AUG-19 1,1-Dichloroethylene 113.5 % 50-140 02-AUG-19 1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	1,1,1,2-Tetrachloroethane			115.0		%		50-140	02-AUG-19
1,1,2-Trichloroethane 104.4 % 50-140 02-AUG-19 1,1-Dichloroethane 111.1 % 50-140 02-AUG-19 1,1-Dichloroethylene 113.5 % 50-140 02-AUG-19 1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	1,1,2,2-Tetrachloroethane			94.5		%		50-140	02-AUG-19
1,1-Dichloroethane 111.1 % 50-140 02-AUG-19 1,1-Dichloroethylene 113.5 % 50-140 02-AUG-19 1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	1,1,1-Trichloroethane			111.9		%		50-140	02-AUG-19
1,1-Dichloroethylene 113.5 % 50-140 02-AUG-19 1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	1,1,2-Trichloroethane			104.4		%		50-140	02-AUG-19
1,2-Dibromoethane 101.2 % 50-140 02-AUG-19	1,1-Dichloroethane			111.1		%		50-140	02-AUG-19
	1,1-Dichloroethylene			113.5		%		50-140	02-AUG-19
1,2-Dichlorobenzene 112.6 % 50-140 02-AUG-19	1,2-Dibromoethane			101.2		%		50-140	02-AUG-19
	1,2-Dichlorobenzene			112.6		%		50-140	02-AUG-19



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Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4737203								
WG3121780-5 MS		L2318180-1	00.0		0/		50.440	
1,2-Dichloroethane			99.9		%		50-140	02-AUG-19
1,2-Dichloropropane			107.8		%		50-140	02-AUG-19
1,3-Dichlorobenzene			116.0		%		50-140	02-AUG-19
1,4-Dichlorobenzene			115.2		%		50-140	02-AUG-19
Acetone			93.8		%		50-140	02-AUG-19
Benzene			115.0		%		50-140	02-AUG-19
Bromodichloromethane			105.0		%		50-140	02-AUG-19
Bromoform			101.8		%		50-140	02-AUG-19
Bromomethane			99.0		%		50-140	02-AUG-19
Carbon tetrachloride			114.1		%		50-140	02-AUG-19
Chlorobenzene			111.6		%		50-140	02-AUG-19
Chloroform			111.1		%		50-140	02-AUG-19
cis-1,2-Dichloroethylene			111.5		%		50-140	02-AUG-19
cis-1,3-Dichloropropene			100.9		%		50-140	02-AUG-19
Dibromochloromethane			105.2		%		50-140	02-AUG-19
Dichlorodifluoromethane			83.7		%		50-140	02-AUG-19
Ethylbenzene			116.4		%		50-140	02-AUG-19
n-Hexane			109.2		%		50-140	02-AUG-19
Methylene Chloride			108.7		%		50-140	02-AUG-19
MTBE			114.7		%		50-140	02-AUG-19
m+p-Xylenes			111.7		%		50-140	02-AUG-19
Methyl Ethyl Ketone			85.3		%		50-140	02-AUG-19
Methyl Isobutyl Ketone			81.6		%		50-140	02-AUG-19
o-Xylene			113.3		%		50-140	02-AUG-19
Styrene			110.4		%		50-140	02-AUG-19
Tetrachloroethylene			118.4		%		50-140	02-AUG-19
Toluene			117.8		%		50-140	02-AUG-19
trans-1,2-Dichloroethyler	ne		110.2		%		50-140	02-AUG-19
trans-1,3-Dichloroproper			98.9		%		50-140	02-AUG-19
Trichloroethylene			115.2		%		50-140	02-AUG-19
Trichlorofluoromethane			116.7		%		50-140	02-AUG-19
Vinyl chloride			112.8		%		50-140	02-AUG-19
.,					,-		00 140	02-A00-10

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Client: CH2M HILL Canada Ltd. Page 39 of 40

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

Legend:

ALS Control Limit (Data Quality Objectives)
Duplicate
Relative Percent Difference
Not Available
Laboratory Control Sample
Standard Reference Material
Matrix Spike
Matrix Spike Duplicate
Average Desorption Efficiency
Method Blank
Internal Reference Material
Certified Reference Material
Continuing Calibration Verification
Calibration Verification Standard

Sample Parameter Qualifier Definitions:

LCSD Laboratory Control Sample Duplicate

Qualifier	Description
Α	Method Blank exceeds ALS DQO. Refer to narrative comments for further information.
J	Duplicate results and limits are expressed in terms of absolute difference.
M,J	A peak has been manually integrated, and the analyte was detected below the calibrated range but above the EDL.
M,J,R	A peak has been manually integrated, the analyte was detected below the calibrated range but above the EDL, and the ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
M,U	A peak has been manually integrated, and the analyte was not detected above the EDL.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
[U]	The analyte was not detected above the EDL.

Workorder: L2318180 Report Date: 27-AUG-19

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

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Hold Time Exceedances:

	Sample						
ALS Product Description	ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
Moisture content							
	12	26-JUL-19 12:30	13-AUG-19 11:00	14	18	days	EHT

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 L2318180 were received on 26-JUL-19 17:05.

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 predetermined 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.



ALS Environmental

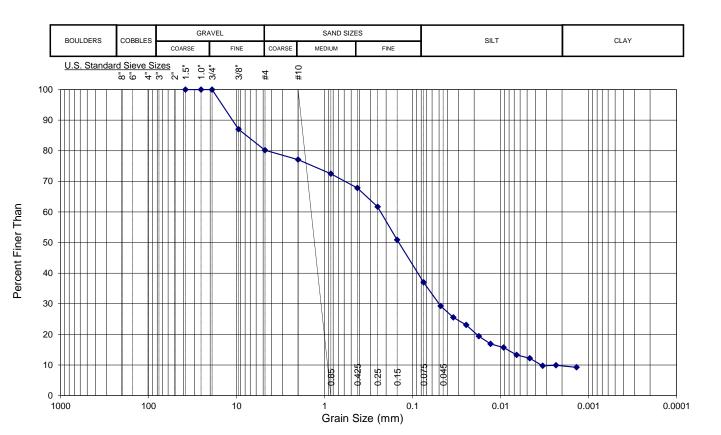
Waterloo, Ontario

PARTICLE SIZE DISTRIBUTION CURVE

Client Name: CH2M HILL Canada Ltd.~TORONTO

Client Sample ID BH202-2-2.5'
Lab Sample ID L2318180-3
Date Sample Received: 26-Jul-19
Test Completion Date: 12-Aug-19

Analyst:



Particle Size	% Passing	Particle Size	% Passing	Particle Size	% Passing
38.1	100.00	0.2500	61.68	0.00924	15.70
25.4	100.00	0.1500	50.89	0.00659	13.28
19	100.00	0.0750	37.01	0.00467	12.21
9.5	87.02	0.0481	29.26	0.00333	9.73
4.75	80.15	0.0345	25.55	0.00235	9.90
2	77.10	0.0246	23.07	0.00137	9.23
0.85	72.47	0.0177	19.37		
0.425	67.85	0.0130	16.91		

METHOD DESCRIPTION	SUMMARY OF RESULTS				
Method Reference: ASTM D422-63(2007)			GRAIN SIZE	WT %	DIA. RANGE (mm)
Soil classification system used: ASTM D422-63 Classification			% GRAVEL :	19.85	> 4.75
Dispersion method: Mechanical			% COARSE SAND :	3.05	4.75 - 2.0
Dispersion period: 1 minute Hydrometer Type: 151H	% MEDIUM SAND : % FINE SAND :		2.0 - 0.425 0.425 - 0.075		
Coarse Grained Coarse: > 50% particles > 0.075mm Fine: < 50% particles > 0.075mm	% Pass/Susp:		% SILT : % CLAY : % CLAY:	12.42	0.075 - 0.005 < 0.005 < 0.002



ALS Environmental

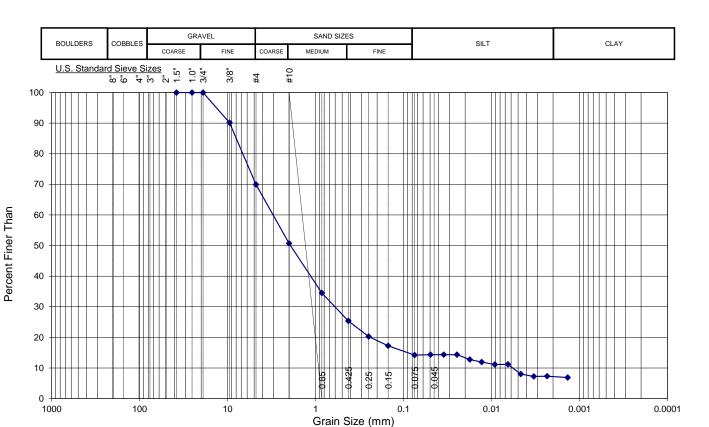
Waterloo, Ontario

PARTICLE SIZE DISTRIBUTION CURVE

Client Name: CH2M HILL Canada Ltd.~TORONTO

Client Sample ID BH201-1-1.5'
Lab Sample ID L2318180-6
Date Sample Received: 26-Jul-19
Test Completion Date: 12-Aug-19

Analyst:

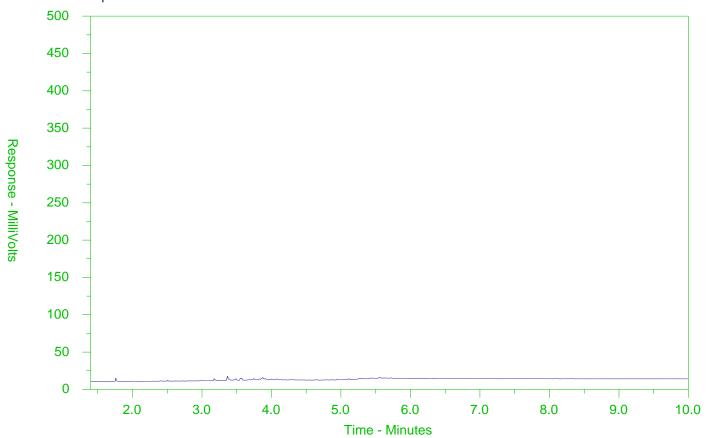


Particle Size	% Passing	Particle Size	% Passing	Particle Size	% Passing
38.1	100.00	0.2500	20.28	0.00920	11.14
25.4	100.00	0.1500	17.24	0.00650	11.17
19	100.00	0.0750	14.20	0.00467	8.03
9.5	90.14	0.0495	14.36	0.00331	7.21
4.75	69.95	0.0350	14.36	0.00234	7.32
2	50.70	0.0247	14.36	0.00136	6.88
0.85	34.48	0.0177	12.74		
0.425	25.35	0.0130	11.93		

METHOD DESCRIPTION			SUMMARY OF RESULTS		
Method Reference: ASTM D422-63	(2007)		GRAIN SIZE	WT %	DIA. RANGE (mm)
Soil classification system used: ASTI	M D422-63 Classification		% GRAVEL :	30.05	> 4.75
Dispersion method: Mechanical			% COARSE SAND :	19.25	4.75 - 2.0
Dispersion period: 1 minute Hydrometer Type: 151H					2.0 - 0.425 0.425 - 0.075
	Hazen Estimated K (cm/s):		% SILT :	5.51	0.075 - 0.005
Coarse: > 50% particles > 0.075mm	% Pass/Susp:	11.14		8.68	< 0.005
Fine: < 50% particles > 0.075mm			% CLAY:	7.20	< 0.002



ALS Sample ID: L2318180-1 Client Sample ID: MW103-2-2.5'



← -F2-	→←	_F3 → F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease				
←	◆ Diesel/Jet Fuels →				

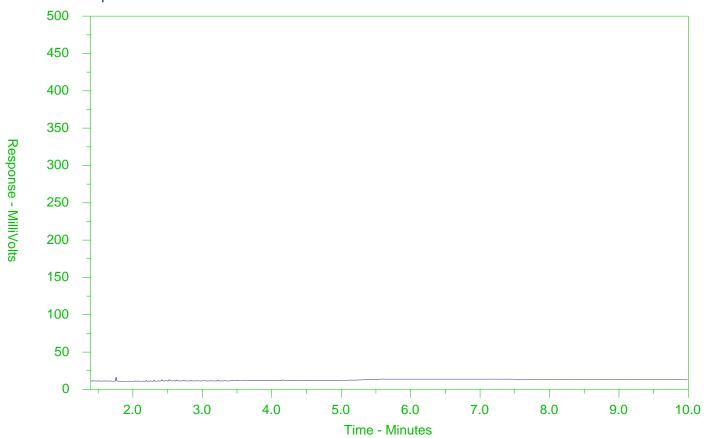
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-2 Client Sample ID: MW104-2.5-3'



← -F2-	→←	_F3 → F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease				
←	◆ Diesel/Jet Fuels →				

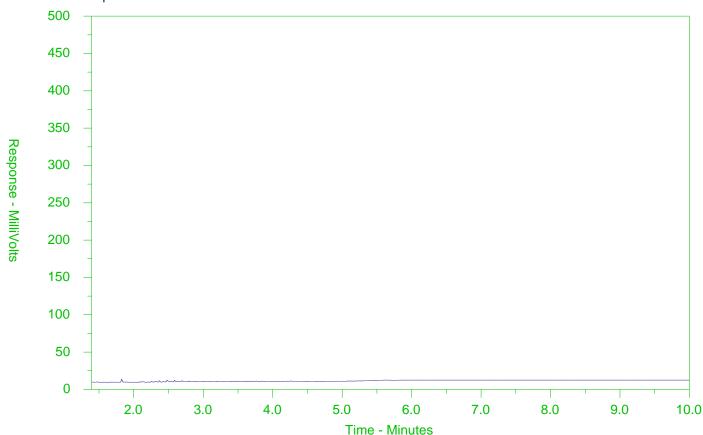
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-3 Client Sample ID: BH202-2-2.5'



← -F2-	→ ←	—F3—→ ← F4—	>				
nC10	nC16	nC34	nC50				
174°C	287°C	481°C	575°C				
346°F	549°F	898°F	1067⁰F				
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease—						
←	-Diesel/J	et Fuels→	◆ Diesel/Jet Fuels →				

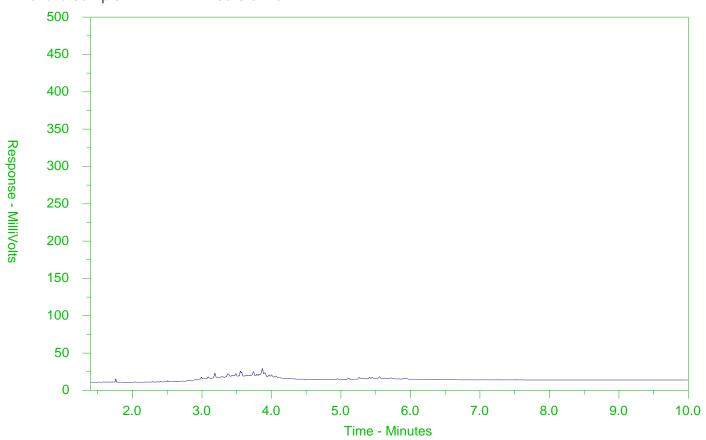
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-4 Client Sample ID: BH200-3.5-4.0"



← -F2-	→←	_F3 → F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease				
←	◆ Diesel/Jet Fuels →				

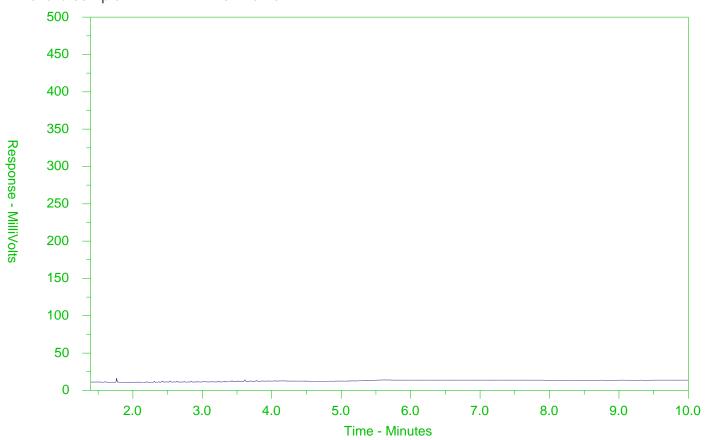
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-5 Client Sample ID: MW102-20-25"



← -F2-	→-	_F3 → F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease				
←	◆ Diesel/Jet Fuels →				

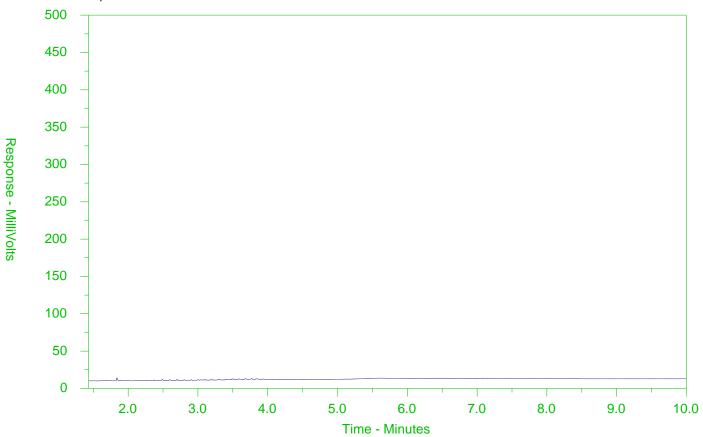
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-6 Client Sample ID: BH201-1-1.5'



← -F2-	→ ←	—F3—→ ← F4—	>				
nC10	nC16	nC34	nC50				
174°C	287°C	481°C	575°C				
346°F	549°F	898°F	1067⁰F				
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease—						
←	-Diesel/J	et Fuels→	◆ Diesel/Jet Fuels →				

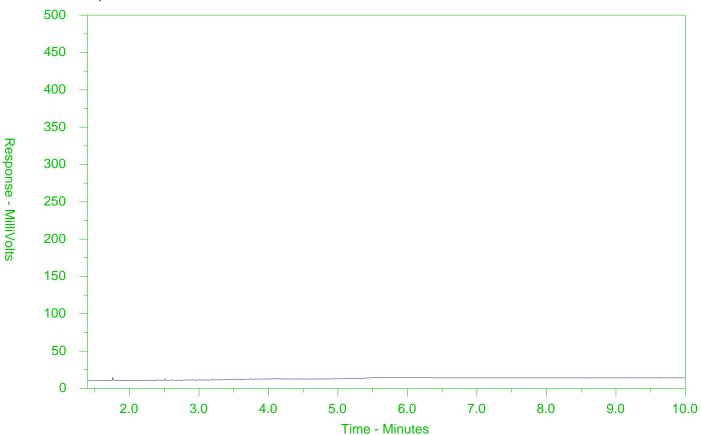
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-7 Client Sample ID: BH201-4-4.5'



← -F2-	→-	_F3 → F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease				
←	◆ Diesel/Jet Fuels →				

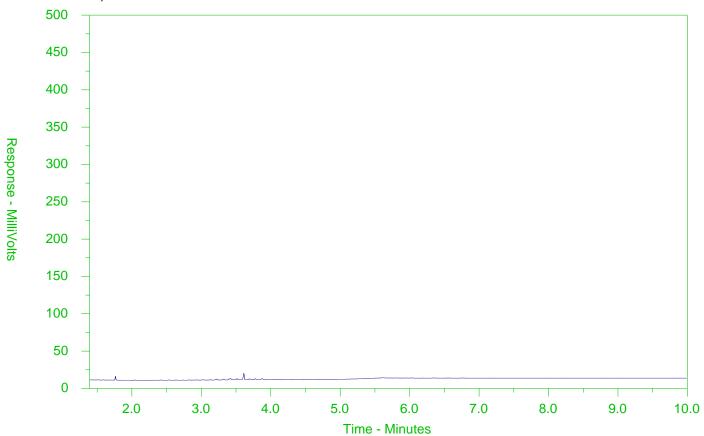
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-8
Client Sample ID: MW100-1.25-1.5'



← -F2-	→ ←	—F3——◆4—F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease—				
←	◆ Diesel/Jet Fuels →				

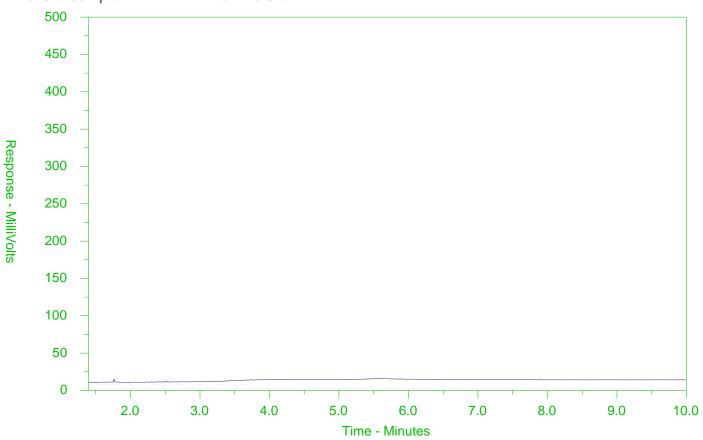
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-9
Client Sample ID: MW109-2.5-3.5'



← -F2-	→-	_F3 → F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease				
←	◆ Diesel/Jet Fuels →				

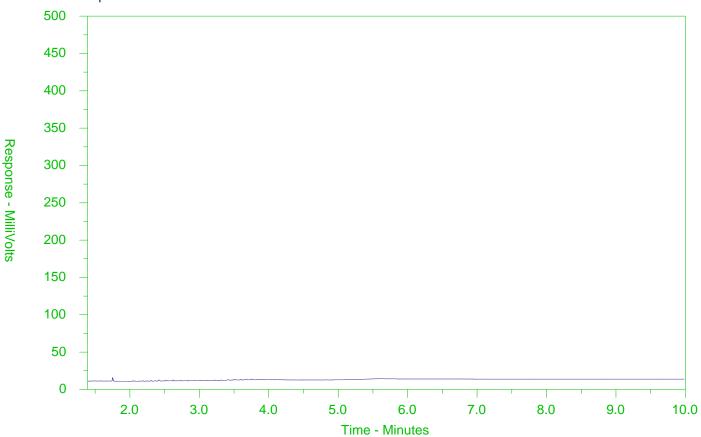
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-10 Client Sample ID: BH206-1-2'



← -F2-	→-	_F3 → F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease				
←	◆ Diesel/Jet Fuels →				

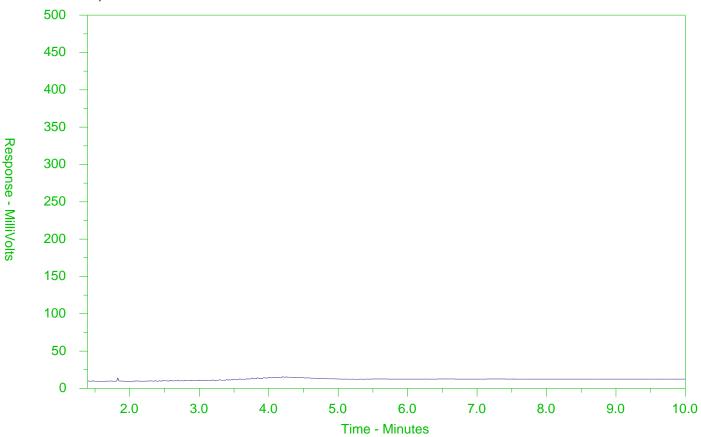
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-11 Client Sample ID: MW108-5-6'



← -F2-	→←	—F3—→ ← —F4—	>
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067⁰F
Gasolin	e →	← Mot	or Oils/Lube Oils/Grease
←	-Diesel/Je	t Fuels→	

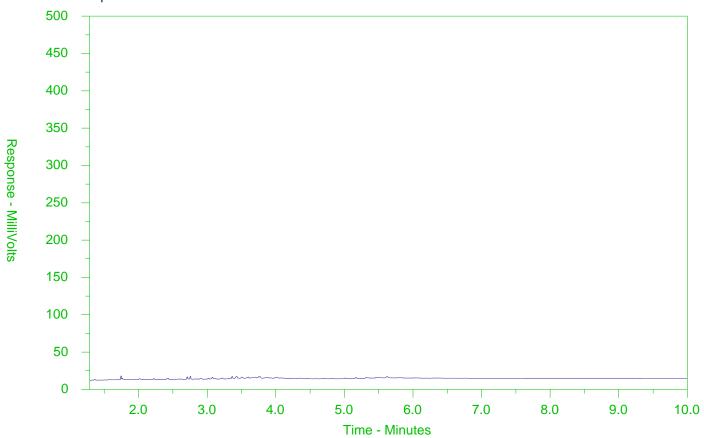
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2318180-12 Client Sample ID: MW101-1.5-2'



← -F2-	→-	_F3 → F4-	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ie →	← Mo	tor 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.

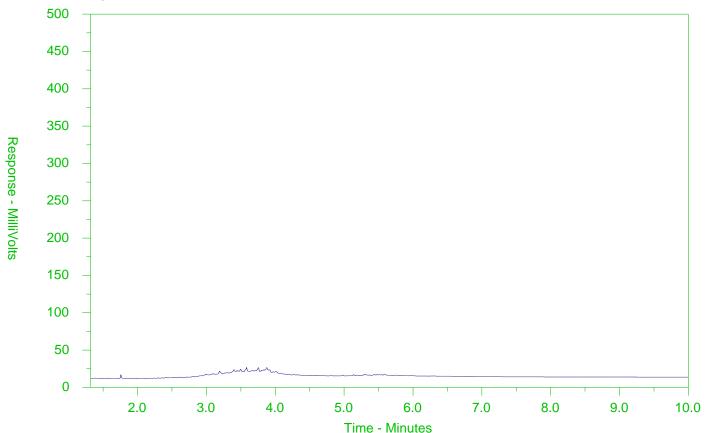
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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.



ALS Sample ID: L2318180-13

Client Sample ID: DUP1



← -F2-	→-	_F3 → F4-	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ie →	← Mo	tor 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.

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DI YES DI NO

INITIAL SHIPMENT RECEPTION (lab use only) Time: Received by: Date: Time:

Received by:

FINAL SHIPMENT RECEPTION (lab use only)

SHIPMENT RELEASE (client use)

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Chain of Custody (COC) / Analytical Request Form

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REFER TO BACK	CPAGE FOR ALS LOCATIONS AND S	SAMPLING INFORMATION		WHE	TE - LABORATOR	RY COPY YELL	OW-	CLIEN.	FCOF	·Υ												7777 W.C	CD/m/l



CH2M HILL Canada Ltd.
ATTN: VICTORIA PETERS
245 CONSUMERS ROAD
SUITE 400
TORONTO ON M2J 1R3

Date Received: 31-JUL-19

Report Date: 07-AUG-19 12:29 (MT)

Version: FINAL

Client Phone: 416-499-9000

Certificate of Analysis

Lab Work Order #: L2319997

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV.19.19-01

C of C Numbers: 17-31072019

Legal Site Desc:

Comments: ADDITIONAL 31-JUL-19 11:13

Mathy Mahadeva Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 95 West Beaver Creek Road, Unit 1, Richmond Hill, ON L4B 1H2 Canada | Phone: +1 905 881 9887 | Fax: +1 905 881 8062

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L2319997 CONT'D....

Job Reference: CE751900.A.CS.EV.19.19-01

PAGE 2 of 13

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Summary of Guideline Exceedances

Guideline						
ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit

Federal & Provincial Waste Regulations (MAR, 2008) - Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90 (No parameter exceedances)

Federal & Provincial Waste Regulations (MAR, 2008) - Polychlorinated Biphenyls (PCBs) - Ontario Regulation 347/90 (No parameter exceedances)



L2319997 CONT'D....

Sample Preparation - WASTE

oampio i roparation	***			
			Lab ID	L2319997-1
	•	Sampl	e Date	30-JUL-19
		Sam	ple ID	TCLP COMP-
				0-6'
		Guide	Limits	
Analyte	Unit	#1	#2	
Initial pH	pH units	-	-	9.86
Final pH	pH units	-	-	5.67

Guide Limit #1: Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90 Guide Limit #2: Polychlorinated Biphenyls (PCBs) - Ontario Regulation 347/90



L2319997 CONT'D....

Job Reference: CE751900.A.CS.EV.19.19-01

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Physical Tests - SOIL

·yo.ca co.c	
	Lab ID L2319997-1
	Sample Date 30-JUL-19
	Sample ID TCLP COMP-
	0-6'
	Guide Limits
Analyte	Unit #1 #2
% Moisture	% 8.52
70 101010101	70 0.32

Guide Limit #1: Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90 Guide Limit #2: Polychlorinated Biphenyls (PCBs) - Ontario Regulation 347/90

L2319997 CONT'D....
Job Reference: CE751900.A.CS.EV.19.19-01

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TCLP Extractables - WASTE

Lab ID L2319997-1 Sample Date 30-JUL-19 Sample ID TCLP COMP-0-6'

				0-6'
Analyte	Unit	Guide #1	Limits #2	
Acenaphthene	mg/L	-	-	<0.0050
Acenaphthylene	mg/L	-	-	<0.0050
Anthracene	mg/L	-	-	<0.0050
Benzo(a)anthracene	mg/L	-	-	<0.0050
Benzo(a)pyrene	mg/L	0.001	-	<0.00020 <0.0010
Benzo(b)fluoranthene	mg/L	-	-	<0.0050
Benzo(g,h,i)perylene	mg/L	-	-	<0.0050
3&4-Methylphenol	mg/L	-	-	<0.010
Cresols (total)	mg/L	200	-	<0.015
Cyanide, Weak Acid Diss	mg/L	20	-	<0.10
2,4-Dichlorophenol	mg/L	90	-	<0.0050
2,4-Dinitrotoluene	mg/L	0.13	-	<0.0040
Fluoride (F)	mg/L	150.0	-	<10
Hexachlorobenzene	mg/L	0.13	-	<0.0040
Hexachlorobutadiene	mg/L	0.5	-	<0.0040
Hexachloroethane	mg/L	3.0	-	<0.0040
2-Methylphenol	mg/L	-	-	<0.0050
Nitrate and Nitrite as N	mg/L	1000	-	<4.0
Nitrate-N	mg/L	-	-	<2.0
Nitrite-N	mg/L	-	-	<2.0
Nitrobenzene	mg/L	2.0	-	<0.0040
Pentachlorophenol	mg/L	6	-	<0.0050
Pyridine	mg/L	5.0	-	<2.0
2,3,4,6-Tetrachlorophenol	mg/L	10.0	-	<0.0050
2,4,5-Trichlorophenol	mg/L	400	-	<0.0050
2,4,6-Trichlorophenol	mg/L	0.5	-	<0.0050
Surrogate: 2,4,6-Tribromophenol	%	-	-	123.5
Surrogate: 2-Fluorobiphenyl	%	-	-	92.6
Surrogate: Nitrobenzene d5	%	-	-	105.5
Surrogate: p-Terphenyl d14	%	-	-	102.5

Guide Limit #1: Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90



L2319997 CONT'D....

Job Reference: CE751900.A.CS.EV.19.19-01

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TCLP Extractables - WASTE

Guide Limit #1: Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90 Guide Limit #2: Polychlorinated Biphenyls (PCBs) - Ontario Regulation 347/90



L2319997 CONT'D....

Job Reference: CE751900.A.CS.EV.19.19-01 PAGE 7 of 13 07-AUG-19 12:29 (MT)

TCLP Metals - WASTE

		Sampl	Lab ID e Date ple ID	L2319997-1 30-JUL-19 TCLP COMP- 0-6'
Analyte	Unit	Guide #1	Limits #2	
Arsenic (As)	mg/L	2.5	-	<0.050
Barium (Ba)	mg/L	100	-	<0.50
Boron (B)	mg/L	500	-	<2.5
Cadmium (Cd)	mg/L	0.5	-	<0.0050
Chromium (Cr)	mg/L	5.0	-	<0.050
Lead (Pb)	mg/L	5.0	-	<0.050
Mercury (Hg)	mg/L	0.1	-	<0.00010
Selenium (Se)	mg/L	1.0	-	<0.025
Silver (Ag)	mg/L	5.0	-	<0.0050
Uranium (U)	mg/L	10	-	<0.25

Guide Limit #1: Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90 Guide Limit #2: Polychlorinated Biphenyls (PCBs) - Ontario Regulation 347/90



L2319997 CONT'D....

Job Reference: CE751900.A.CS.EV.19.19-01 PAGE 8 of 13 07-AUG-19 12:29 (MT)

TCLP VOCs - WASTE

		Sample	ab ID Date ple ID	L2319997-1 30-JUL-19 TCLP COMP- 0-6'
Analyte	Unit	Guide #1	Limits #2	
1,1-Dichloroethylene	mg/L	1.4	-	<0.025
1,2-Dichlorobenzene	mg/L	20.0	-	<0.025
1,2-Dichloroethane	mg/L	0.5	-	<0.025
1,4-Dichlorobenzene	mg/L	0.5	-	<0.025
Benzene	mg/L	0.5	-	<0.025
Carbon tetrachloride	mg/L	0.5	-	<0.025
Chlorobenzene	mg/L	8	-	<0.025
Chloroform	mg/L	10	-	<0.10
Dichloromethane	mg/L	5.0	-	<0.50
Methyl Ethyl Ketone	mg/L	200.0	-	<1.0
Tetrachloroethylene	mg/L	3	-	<0.025
Trichloroethylene	mg/L	5	-	<0.025
Vinyl chloride	mg/L	0.2	-	<0.050
Surrogate: 4-Bromofluorobenzene	%	-	-	98.0

Guide Limit #1: Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90 Guide Limit #2: Polychlorinated Biphenyls (PCBs) - Ontario Regulation 347/90



L2319997 CONT'D....
Job Reference: CE751900.A.CS.EV.19.19-01

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Volatile Organic Compounds - WASTE

		Lab ID	L2319997-1
	Sampl	e Date	30-JUL-19
	San	nple ID	TCLP COMP-
			0-6'
	Guide	Limits	
Unit	#1	#2	
			98.7
		Sampl San Guide	Lab ID Sample Date Sample ID Guide Limits Unit #1 #2

Guide Limit #1: Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90 Guide Limit #2: Polychlorinated Biphenyls (PCBs) - Ontario Regulation 347/90



L2319997 CONT'D....

Job Reference: CE751900.A.CS.EV.19.19-01 PAGE 10 of 13 07-AUG-19 12:29 (MT)

Polycyclic Aromatic Hydrocarbons - WASTE

 Lab ID
 L2319997-1

 Sample Date
 30-JUL-19

 Sample ID
 TCLP COMP-0-6'

		Guide	Limits	
Analyte	Unit	#1	#2	
Benzo(k)fluoranthene	mg/L	-	-	<0.0050
Chrysene	mg/L	-	-	<0.0050
Dibenzo(ah)anthracene	mg/L	-	-	<0.0050
Fluoranthene	mg/L	-	-	<0.0050
Fluorene	mg/L	-	-	<0.0050
Indeno(1,2,3-cd)pyrene	mg/L	-	-	< 0.0050
Naphthalene	mg/L	-	-	<0.0050
Phenanthrene	mg/L	-	-	<0.0050
Pyrene	mg/L	-	-	<0.0050
Quinoline	mg/L	-	-	<0.0050
Surrogate: d10-Acenaphthene	%	-	-	102.8
Surrogate: d12-Chrysene	%	-	-	106.4
Surrogate: d8-Naphthalene	%	-	-	107.8
Surrogate: d10-Phenanthrene	%	-	-	105.0

Guide Limit #1: Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90 Guide Limit #2: Polychlorinated Biphenyls (PCBs) - Ontario Regulation 347/90



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Job Reference: CE751900.A.CS.EV.19.19-01

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Polychlorinated Biphenyls - SOIL

	L	_ab ID	L2319997-1
	Sample	e Date	30-JUL-19
	Sam	ple ID	TCLP COMP-
			0-6'
	Guide	Limits	
Unit	#1	#2	
ug/g	-	-	<0.010
ug/g	-	-	<0.010
ug/g	-	-	<0.010
ug/g	-	-	<0.010
ug/g	-	50.0	<0.020
%	-	-	78.5
	Unit ug/g ug/g ug/g ug/g ug/g	#1 ug/g - ug/g - ug/g - ug/g - ug/g - ug/g - ug/g - ug/g - ug/g - ug/g -	Lab ID Sample Date Sample ID

Guide Limit #1: Ontario Ministry of the Environment, General Waste Control Regulation No. 347/90 Guide Limit #2: Polychlorinated Biphenyls (PCBs) - Ontario Regulation 347/90

Reference Information

L2319997 CONT'D....
Job Reference: CE751900.A.CS.EV.19.19-01
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07-AUG-19 12:29 (MT)

Methods Listed (if applicable):

ALS Test Code Matrix Test Description Method Reference**

BNA-TCLP-WT Waste BNAs for O. Reg 347 SW846 8270

Samples are leached according to TCLP protocol and then the aqueous leachate is extracted and the resulting extracts are analyzed on GC/MSD

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).

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).

MOISTURE-WT Soil % Moisture CCME PHC in Soil - Tier 1 (mod)

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.

PAH-TCLP-WT Waste PAH for O. Reg 347 SW846 8270 (PAH)

Samples are leached according to TCLP protocol and then the aqueous leachate is extracted and the resulting extracts are analyzed on GC/MSD. Depending on the analytical GC/MS column used benzo(j)fluoranthene may chromatographically co-elute with benzo(b)fluoranthene or benzo(k)fluoranthene.

PCB-511-WT Soil PCB-O.Reg 153/04 (July 2011) SW846 3510/8082

Reference Information

L2319997 CONT'D....
Job Reference: CE751900.A.CS.EV.19.19-01
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Methods Listed (if applicable):

ALS Test Code Matrix Test Description Method Reference**

An aliquot of a solid sample is extracted with a solvent, extract is cleaned up and analyzed on the 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).

PYR-TCLP-WT Waste Pyridine for O. Reg 347 SW846 8260D

Samples are leached according to TCLP protocol and then analyzed on GC/MSD

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.

Chain of Custody Numbers:

17-31072019

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

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.



Workorder: L2319997 Report Date: 07-AUG-19 Page 1 of 12

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	ı	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil							
Batch R4 WG3123546-3 % Moisture	1739122 DUP		L2321240-1 19.5	19.3		%	1.3	20	04-AUG-19
WG3123546-2 % Moisture	LCS			99.7		%		90-110	04-AUG-19
WG3123546-1 % Moisture	MB			<0.10		%		0.1	04-AUG-19
PCB-511-WT		Soil							
Batch R4	1739770								
WG3123397-3 Aroclor 1242	DUP		WG3123397-5 <0.010	<0.010	RPD-NA	ug/g	N/A	40	06 AUG 10
Aroclor 1248			<0.010	<0.010					06-AUG-19
Aroclor 1248 Aroclor 1254			<0.010	<0.010	RPD-NA	ug/g	N/A	40	06-AUG-19
					RPD-NA	ug/g	N/A	40	06-AUG-19
Aroclor 1260			<0.010	<0.010	RPD-NA	ug/g	N/A	40	06-AUG-19
WG3123397-2 Aroclor 1242	LCS			98.8		%		60-140	06-AUG-19
Aroclor 1248				92.4		%		60-140	06-AUG-19
Aroclor 1254				95.4		%		60-140	06-AUG-19
Aroclor 1260				90.2		%		60-140	06-AUG-19
WG3123397-1 Aroclor 1242	MB			<0.010		ug/g		0.01	06-AUG-19
Aroclor 1248				<0.010		ug/g		0.01	06-AUG-19
Aroclor 1254				<0.010		ug/g		0.01	06-AUG-19
Aroclor 1260				<0.010		ug/g		0.01	06-AUG-19
Surrogate: d14-	-Terphenyl			73.9		%		60-140	06-AUG-19
WG3123397-4	MS		WG3123397-5						-
Aroclor 1242				102.9		%		60-140	06-AUG-19
Aroclor 1254				99.3		%		60-140	06-AUG-19
Aroclor 1260				91.8		%		60-140	06-AUG-19
BNA-TCLP-WT	,	Waste							
Batch R4	1742489								
WG3122480-5 2,3,4,6-Tetrach	DUP llorophenol		WG3122480-3 < 0.0050	<0.0050	RPD-NA	mg/L	N/A	50	07-AUG-19
2,4,5-Trichlorop	ohenol		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	07-AUG-19
2,4,6-Trichlorop	ohenol		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	07-AUG-19
2,4-Dichlorophe			<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	07-AUG-19
2,4-Dinitrotolue			<0.0040	<0.0040		mg/L			07-AUG-19
						-			· -



Workorder: L2319997 Report Date: 07-AUG-19 Page 2 of 12

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BNA-TCLP-WT	Waste							
Batch R4742489								
WG3122480-5 DUP		WG3122480-3	0.0040					
2,4-Dinitrotoluene		<0.0040	<0.0040	RPD-NA	mg/L	N/A	50	07-AUG-19
2-Methylphenol		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	07-AUG-19
3&4-Methylphenol		<0.010	<0.010	RPD-NA	mg/L	N/A	50	07-AUG-19
Benzo(a)pyrene		<0.00020	<0.00020	RPD-NA	mg/L	N/A	50	07-AUG-19
Hexachlorobenzene		<0.0040	<0.0040	RPD-NA	mg/L	N/A	50	07-AUG-19
Hexachlorobutadiene		<0.0040	<0.0040	RPD-NA	mg/L	N/A	50	07-AUG-19
Hexachloroethane		<0.0040	<0.0040	RPD-NA	mg/L	N/A	50	07-AUG-19
Nitrobenzene		<0.0040	<0.0040	RPD-NA	mg/L	N/A	50	07-AUG-19
Pentachlorophenol		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	07-AUG-19
WG3122480-2 LCS 2,3,4,6-Tetrachlorophene	ol		117.2		%		60-140	07-AUG-19
2,4,5-Trichlorophenol			115.9		%		60-140	07-AUG-19
2,4,6-Trichlorophenol			112.0		%		60-140	07-AUG-19
2,4-Dichlorophenol			106.8		%		60-140	07-AUG-19
2,4-Dinitrotoluene			106.8		%		50-150	07-AUG-19
2-Methylphenol			86.9		%		60-140	07-AUG-19
3&4-Methylphenol			83.2		%		60-140	07-AUG-19
Benzo(a)pyrene			84.6		%		60-140	07-AUG-19
Hexachlorobenzene			90.2		%		60-140	07-AUG-19
Hexachlorobutadiene			84.2		%		40-130	07-AUG-19
Hexachloroethane			78.4		%		40-130	07-AUG-19
Nitrobenzene			95.6		%		60-140	07-AUG-19
Pentachlorophenol			104.4		%		50-160	07-AUG-19
WG3122480-1 MB 2,3,4,6-Tetrachlorophene	ol.		<0.0050		ma/l		0.005	07 AUG 40
2,4,5-Trichlorophenol	OI		<0.0050		mg/L mg/L		0.005	07-AUG-19
2,4,6-Trichlorophenol			<0.0050		mg/L		0.005	07-AUG-19
2,4-Dichlorophenol			<0.0050		mg/L		0.005	07-AUG-19
2,4-Dictiorophenor			<0.0030				0.003	07-AUG-19
2-Methylphenol			<0.0040		mg/L mg/L		0.004	07-AUG-19
3&4-Methylphenol			<0.0030		•		0.003	07-AUG-19
Benzo(a)pyrene			<0.010		mg/L mg/l		0.0002	07-AUG-19
Hexachlorobenzene			<0.00020		mg/L		0.0002	07-AUG-19
Hexachlorobutadiene			<0.0040		mg/L mg/l		0.004	07-AUG-19
i iexaci iiolobulauleile			<0.0040		mg/L		0.004	07-AUG-19



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Test Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BNA-TCLP-WT Waste							
Batch R4742489							
WG3122480-1 MB						0.004	
Hexachloroethane		<0.0040		mg/L		0.004	07-AUG-19
Nitrobenzene		<0.0040		mg/L		0.004	07-AUG-19
Pentachlorophenol		<0.0050		mg/L		0.005	07-AUG-19
Surrogate: Nitrobenzene d5		95.0		%		50-150	07-AUG-19
Surrogate: 2-Fluorobiphenyl		80.7		%		40-160	07-AUG-19
Surrogate: p-Terphenyl d14		106.8		%		60-140	07-AUG-19
Surrogate: 2,4,6-Tribromophenol		108.0		%		50-150	07-AUG-19
WG3122480-6 MB 2,3,4,6-Tetrachlorophenol		<0.0050		mg/L		0.005	07-AUG-19
2,4,5-Trichlorophenol		<0.0050		mg/L		0.005	07-AUG-19
2,4,6-Trichlorophenol		<0.0050		mg/L		0.005	07-AUG-19
2,4-Dichlorophenol		<0.0050		mg/L		0.005	07-AUG-19
2,4-Dinitrotoluene		<0.0040		mg/L		0.004	07-AUG-19
2-Methylphenol		<0.0050		mg/L		0.005	07-AUG-19
3&4-Methylphenol		<0.010		mg/L		0.01	07-AUG-19
Benzo(a)pyrene		<0.00020		mg/L		0.0002	07-AUG-19
Hexachlorobenzene		<0.0040		mg/L		0.004	07-AUG-19
Hexachlorobutadiene		<0.0040		mg/L		0.004	07-AUG-19
Hexachloroethane		<0.0040		mg/L		0.004	07-AUG-19
Nitrobenzene		<0.0040		mg/L		0.004	07-AUG-19
Pentachlorophenol		<0.0050		mg/L		0.005	07-AUG-19
Surrogate: Nitrobenzene d5		96.2		%		50-150	07-AUG-19
Surrogate: 2-Fluorobiphenyl		89.7		%		40-160	07-AUG-19
Surrogate: p-Terphenyl d14		103.7		%		60-140	07-AUG-19
Surrogate: 2,4,6-Tribromophenol		113.5		%		50-150	07-AUG-19
WG3122480-4 MS	WG3122480-3						0.7.00
2,3,4,6-Tetrachlorophenol		91.7		%		50-150	07-AUG-19
2,4,5-Trichlorophenol		87.2		%		50-150	07-AUG-19
2,4,6-Trichlorophenol		87.6		%		50-150	07-AUG-19
2,4-Dichlorophenol		85.3		%		50-150	07-AUG-19
2,4-Dinitrotoluene		80.7		%		50-150	07-AUG-19
2-Methylphenol		72.5		%		50-150	07-AUG-19
3&4-Methylphenol		69.0		%		50-150	07-AUG-19
Benzo(a)pyrene		72.0		%		50-150	07-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BNA-TCLP-WT	Waste							
Batch R4742489								
WG3122480-4 MS		WG3122480-3						
Hexachlorobenzene			73.7		%		40-150	07-AUG-19
Hexachlorobutadiene			45.2		%		40-150	07-AUG-19
Hexachloroethane			44.0		%		40-150	07-AUG-19
Nitrobenzene			74.5		%		50-150	07-AUG-19
Pentachlorophenol			102.6		%		50-150	07-AUG-19
CN-TCLP-WT	Waste							
Batch R4739902								
WG3123004-3 DUP Cyanide, Weak Acid Dis	s	L2317397-1 <0.10	<0.10	RPD-NA	mg/L	N/A	50	02-AUG-19
WG3123004-2 LCS Cyanide, Weak Acid Dis	S		113.2		%		70-130	02-AUG-19
WG3123004-1 MB Cyanide, Weak Acid Dis	s		<0.10		mg/L		0.1	02-AUG-19
WG3123004-4 MS Cyanide, Weak Acid Dis	s	L2317397-1	112.3		%		50-140	02-AUG-19
F-TCLP-WT	Waste							
Batch R4740025								
WG3122765-3 DUP Fluoride (F)		L2317397-1 <10	<10	RPD-NA	mg/L	N/A	30	02-AUG-19
WG3122765-2 LCS Fluoride (F)			103.9		%		70-130	02-AUG-19
WG3122765-1 MB Fluoride (F)			<10		mg/L		10	02-AUG-19
WG3122765-4 MS Fluoride (F)		L2317397-1	102.2		%		50-150	02-AUG-19
HG-TCLP-WT	Waste						00 100	02700 10
Batch R4737827	.14010							
WG3122793-3 DUP		L2319198-2						
Mercury (Hg)		<0.00010	<0.00010	RPD-NA	mg/L	N/A	50	02-AUG-19
WG3122793-2 LCS Mercury (Hg)			102.0		%		70-130	02-AUG-19
WG3122793-1 MB Mercury (Hg)			<0.00010		mg/L		0.0001	02-AUG-19
WG3122793-4 MS Mercury (Hg)		L2319198-2	89.4		%		50-140	02-AUG-19
MET-TCLP-WT	Waste							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT	Waste							
Batch R473	38918							
WG3122710-4 Silver (Ag)	DUP	WG3122710-3 <0.0050	<0.0050	RPD-NA	mg/L	N/A	50	02-AUG-19
Arsenic (As)		<0.050	< 0.050	RPD-NA	mg/L	N/A	50	02-AUG-19
Boron (B)		<2.5	<2.5	RPD-NA	mg/L	N/A	50	02-AUG-19
Barium (Ba)		<0.50	<0.50	RPD-NA	mg/L	N/A	50	02-AUG-19
Cadmium (Cd)		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	02-AUG-19
Chromium (Cr)		<0.050	<0.050	RPD-NA	mg/L	N/A	50	02-AUG-19
Lead (Pb)		<0.050	<0.050	RPD-NA	mg/L	N/A	50	02-AUG-19
Selenium (Se)		<0.025	<0.025	RPD-NA	mg/L	N/A	50	02-AUG-19
Uranium (U)		<0.25	<0.25	RPD-NA	mg/L	N/A	50	02-AUG-19
WG3122710-2 Silver (Ag)	LCS		103.1		%		70-130	02-AUG-19
Arsenic (As)			99.4		%		70-130	02-AUG-19
Boron (B)			95.1		%		70-130	02-AUG-19
Barium (Ba)			99.4		%		70-130	02-AUG-19
Cadmium (Cd)			98.3		%		70-130	02-AUG-19
Chromium (Cr)			99.6		%		70-130	02-AUG-19
Lead (Pb)			98.5		%		70-130	02-AUG-19
Selenium (Se)			99.9		%		70-130	02-AUG-19
Uranium (U)			101.4		%		70-130	02-AUG-19
WG3122710-1 Silver (Ag)	МВ		<0.0050		mg/L		0.005	02-AUG-19
Arsenic (As)			<0.050		mg/L		0.05	02-AUG-19
Boron (B)			<2.5		mg/L		2.5	02-AUG-19
Barium (Ba)			<0.50		mg/L		0.5	02-AUG-19
Cadmium (Cd)			<0.0050		mg/L		0.005	02-AUG-19
Chromium (Cr)			<0.050		mg/L		0.05	02-AUG-19
Lead (Pb)			<0.050		mg/L		0.05	02-AUG-19
Selenium (Se)			<0.025		mg/L		0.025	02-AUG-19
Uranium (U)			<0.25		mg/L		0.25	02-AUG-19
WG3122710-5 Silver (Ag)	MS	WG3122710-3	106.1		%		50-140	02-AUG-19
Arsenic (As)			96.8		%		50-140	02-AUG-19
Boron (B)			93.8		%		50-140	02-AUG-19
Barium (Ba)			101.2		%		50-140	02-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-TCLP-WT	Waste							
Batch R4738918 WG3122710-5 MS		WG3122710-3						
Cadmium (Cd)			101.6		%		50-140	02-AUG-19
Chromium (Cr)			99.1		%		50-140	02-AUG-19
Lead (Pb)			96.8		%		50-140	02-AUG-19
Selenium (Se)			99.6		%		50-140	02-AUG-19
Uranium (U)			96.2		%		50-140	02-AUG-19
N2N3-TCLP-WT	Waste							
Batch R4740025								
WG3122765-3 DUP Nitrate-N		L2317397-1 <2.0	<2.0	RPD-NA	mg/L	N/A	25	02-AUG-19
Nitrite-N		<2.0	<2.0	RPD-NA	mg/L	N/A	25	02-AUG-19
WG3122765-2 LCS Nitrate-N			102.9		%		70-130	02-AUG-19
Nitrite-N			103.5		%		70-130	02-AUG-19
WG3122765-1 MB Nitrate-N			<2.0		mg/L		2	02-AUG-19
Nitrite-N			<2.0		mg/L		2	02-AUG-19 02-AUG-19
WG3122765-4 MS		L2317397-1			⊖, ⊑		-	02-A00-19
Nitrate-N			105.3		%		50-150	02-AUG-19
Nitrite-N			105.4		%		50-150	02-AUG-19
PAH-TCLP-WT	Waste							
Batch R4739688								
WG3122493-6 DUP Acenaphthene		WG3122493-4 <0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Acenaphthylene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Anthracene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Benzo(a)anthracene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Benzo(a)pyrene		<0.0010	<0.0010	RPD-NA	mg/L	N/A	50	06-AUG-19
Benzo(b)fluoranthene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Benzo(g,h,i)perylene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Benzo(k)fluoranthene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Chrysene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Dibenzo(ah)anthracene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Fluoranthene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Fluorene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TCLP-WT	Waste							
Batch R4739688								
WG3122493-6 DUP		WG3122493-4						
Indeno(1,2,3-cd)pyrene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Naphthalene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Phenanthrene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Pyrene		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
Quinoline		<0.0050	<0.0050	RPD-NA	mg/L	N/A	50	06-AUG-19
WG3122493-2 LCS Acenaphthene			101.5		%		50-130	06-AUG-19
Acenaphthylene			102.7		%		50-130	06-AUG-19
Anthracene			105.0		%		50-130	06-AUG-19
Benzo(a)anthracene			112.2		%		50-140	06-AUG-19
Benzo(a)pyrene			102.0		%		60-140	06-AUG-19
Benzo(b)fluoranthene			104.9		%		50-140	06-AUG-19
Benzo(g,h,i)perylene			99.3		%		50-140	06-AUG-19
Benzo(k)fluoranthene			100.1		%		50-150	06-AUG-19
Chrysene			111.9		%		50-140	06-AUG-19
Dibenzo(ah)anthracene			102.8		%		50-140	06-AUG-19
Fluoranthene			103.1		%		50-150	06-AUG-19
Fluorene			99.0		%		50-150	06-AUG-19
Indeno(1,2,3-cd)pyrene			108.8		%		50-140	06-AUG-19
Naphthalene			104.7		%		50-130	06-AUG-19
Phenanthrene			105.8		%		50-130	06-AUG-19
Pyrene			104.5		%		50-140	06-AUG-19
Quinoline			103.4		%		50-150	06-AUG-19
WG3122493-1 MB								
Acenaphthene			<0.0050		mg/L		0.005	06-AUG-19
Acenaphthylene			<0.0050		mg/L		0.005	06-AUG-19
Anthracene			<0.0050		mg/L		0.005	06-AUG-19
Benzo(a)anthracene			<0.0050		mg/L		0.005	06-AUG-19
Benzo(a)pyrene			<0.0010		mg/L		0.001	06-AUG-19
Benzo(b)fluoranthene			<0.0050		mg/L		0.005	06-AUG-19
Benzo(g,h,i)perylene			<0.0050		mg/L		0.005	06-AUG-19
Benzo(k)fluoranthene			<0.0050		mg/L		0.005	06-AUG-19
Chrysene			<0.0050		mg/L		0.005	06-AUG-19
Dibenzo(ah)anthracene			< 0.0050		mg/L		0.005	06-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TCLP-WT	Waste							
	39688							
WG3122493-1 Fluoranthene	МВ		<0.0050		mg/L		0.005	06-AUG-19
Fluorene			<0.0050		mg/L		0.005	06-AUG-19
Indeno(1,2,3-cd)p	pyrene		<0.0050		mg/L		0.005	06-AUG-19
Naphthalene			<0.0050		mg/L		0.005	06-AUG-19
Phenanthrene			<0.0050		mg/L		0.005	06-AUG-19
Pyrene			<0.0050		mg/L		0.005	06-AUG-19
Quinoline			<0.0050		mg/L		0.005	06-AUG-19
Surrogate: d8-Na	phthalene		104.1		%		50-150	06-AUG-19
Surrogate: d10-P	henanthrene		104.1		%		50-150	06-AUG-19
Surrogate: d12-C	hrysene		113.0		%		50-150	06-AUG-19
Surrogate: d10-A	cenaphthene		100.6		%		50-150	06-AUG-19
WG3122493-3	МВ							
Acenaphthene			<0.0050		mg/L		0.005	06-AUG-19
Acenaphthylene			< 0.0050		mg/L		0.005	06-AUG-19
Anthracene			<0.0050		mg/L		0.005	06-AUG-19
Benzo(a)anthrace	ene		<0.0050		mg/L		0.005	06-AUG-19
Benzo(a)pyrene			<0.0010		mg/L		0.001	06-AUG-19
Benzo(b)fluoranth	nene		<0.0050		mg/L		0.005	06-AUG-19
Benzo(g,h,i)peryl	ene		<0.0050		mg/L		0.005	06-AUG-19
Benzo(k)fluoranth	nene		<0.0050		mg/L		0.005	06-AUG-19
Chrysene			<0.0050		mg/L		0.005	06-AUG-19
Dibenzo(ah)anthr	acene		<0.0050		mg/L		0.005	06-AUG-19
Fluoranthene			<0.0050		mg/L		0.005	06-AUG-19
Fluorene			<0.0050		mg/L		0.005	06-AUG-19
Indeno(1,2,3-cd)p	yrene		<0.0050		mg/L		0.005	06-AUG-19
Naphthalene			<0.0050		mg/L		0.005	06-AUG-19
Phenanthrene			<0.0050		mg/L		0.005	06-AUG-19
Pyrene			<0.0050		mg/L		0.005	06-AUG-19
Quinoline			<0.0050		mg/L		0.005	06-AUG-19
Surrogate: d8-Na	phthalene		102.1		%		50-150	06-AUG-19
Surrogate: d10-P	henanthrene		101.8		%		50-150	06-AUG-19
Surrogate: d12-C	hrysene		111.3		%		50-150	06-AUG-19
Surrogate: d10-A	cenaphthene		99.9		%		50-150	06-AUG-19
WG3122493-5	MS	WG3122493-4	ļ					



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Test	Matrix I	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-TCLP-WT	Waste							
Batch R4739688								
WG3122493-5 MS		WG3122493-4						
Acenaphthene			100.1		%		50-150	06-AUG-19
Acenaphthylene			100.9		%		50-150	06-AUG-19
Anthracene			102.5		%		50-150	06-AUG-19
Benzo(a)anthracene			101.2		%		50-150	06-AUG-19
Benzo(a)pyrene			84.1		%		50-150	06-AUG-19
Benzo(b)fluoranthene			82.2		%		50-150	06-AUG-19
Benzo(g,h,i)perylene			78.3		%		50-150	06-AUG-19
Benzo(k)fluoranthene			82.6		%		50-150	06-AUG-19
Chrysene			96.0		%		50-150	06-AUG-19
Dibenzo(ah)anthracene			82.0		%		50-150	06-AUG-19
Fluoranthene			97.9		%		50-150	06-AUG-19
Fluorene			100.6		%		50-150	06-AUG-19
Indeno(1,2,3-cd)pyrene			87.2		%		50-150	06-AUG-19
Naphthalene			112.0		%		50-150	06-AUG-19
Phenanthrene			104.0		%		50-150	06-AUG-19
Pyrene			99.7		%		50-150	06-AUG-19
Quinoline			100.7		%		50-150	06-AUG-19
PYR-TCLP-WT	Waste							
Batch R4740062								
WG3124804-4 DUP Pyridine		L2319220-5 <2.0	<2.0	RPD-NA	mg/L	N/A	30	06-AUG-19
WG3124804-2 LCS					Ü			
Pyridine			100.0		%		70-130	06-AUG-19
WG3124804-3 MB Pyridine			<2.0		mg/L		2	06-AUG-19
WG3124804-5 MS		L2319526-1						
Pyridine			104.0		%		50-150	06-AUG-19
VOC-TCLP-WT	Waste							
Batch R4741573								
WG3124175-6 LCS 1,1-Dichloroethylene			93.1		%		70-130	06-AUG-19
1,2-Dichlorobenzene			103.4		%		70-130 70-130	
1,2-Dichloroethane			105.4		%			06-AUG-19
1,4-Dichlorobenzene			102.5		%		70-130	06-AUG-19
1,4-DIGHIOTODENZENE			102.5		70		70-130	06-AUG-19



Workorder: L2319997 Report Date: 07-AUG-19 Page 10 of 12

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-TCLP-WT	Waste							
Batch R4741573								
WG3124175-6 LCS Benzene			103.2		%		70.400	00 4110 40
Carbon tetrachloride			96.7		%		70-130	06-AUG-19
Chlorobenzene			101.5		%		60-140	06-AUG-19
Chloroform			101.5		%		70-130	06-AUG-19
Dichloromethane			102.9		%		70-130	06-AUG-19
			101.5		%		70-130	06-AUG-19
Methyl Ethyl Ketone					%		50-150	06-AUG-19
Tetrachloroethylene			98.6				70-130	06-AUG-19
Trichloroethylene			99.3		%		70-130	06-AUG-19
Vinyl chloride			112.3		%		60-130	06-AUG-19
WG3124175-10 MB 1,1-Dichloroethylene			<0.025		mg/L		0.025	07-AUG-19
1,2-Dichlorobenzene			<0.025		mg/L		0.025	07-AUG-19
1,2-Dichloroethane			<0.025		mg/L		0.025	07-AUG-19
1,4-Dichlorobenzene			<0.025		mg/L		0.025	07-AUG-19
Benzene			<0.025		mg/L		0.025	07-AUG-19
Carbon tetrachloride			<0.025		mg/L		0.025	07-AUG-19
Chlorobenzene			<0.025		mg/L		0.025	07-AUG-19
Chloroform			<0.10		mg/L		0.1	07-AUG-19
Dichloromethane			<0.50		mg/L		0.5	07-AUG-19
Methyl Ethyl Ketone			<1.0		mg/L		1	07-AUG-19
Tetrachloroethylene			< 0.025		mg/L		0.025	07-AUG-19
Trichloroethylene			<0.025		mg/L		0.025	07-AUG-19
Vinyl chloride			< 0.050		mg/L		0.05	07-AUG-19
Surrogate: 1,4-Difluorober	nzene		98.3		%		70-130	07-AUG-19
Surrogate: 4-Bromofluorol	benzene		97.6		%		70-130	07-AUG-19
WG3124175-7 MB								
1,1-Dichloroethylene			<0.025		mg/L		0.025	07-AUG-19
1,2-Dichlorobenzene			<0.025		mg/L		0.025	07-AUG-19
1,2-Dichloroethane			<0.025		mg/L		0.025	07-AUG-19
1,4-Dichlorobenzene			<0.025		mg/L		0.025	07-AUG-19
Benzene			<0.025		mg/L		0.025	07-AUG-19
Carbon tetrachloride			<0.025		mg/L		0.025	07-AUG-19
Chlorobenzene			<0.025		mg/L		0.025	07-AUG-19
Chloroform			<0.10		mg/L		0.1	07-AUG-19



Workorder: L2319997 Report Date: 07-AUG-19 Page 11 of 12

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test Matr	rix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-TCLP-WT Was	ste						
Batch R4741573							
WG3124175-7 MB Dichloromethane		<0.50		mg/L		0.5	07-AUG-19
Methyl Ethyl Ketone		<1.0		mg/L		1	07-AUG-19
Tetrachloroethylene		<0.025		mg/L		0.025	07-AUG-19
Trichloroethylene		<0.025		mg/L		0.025	07-AUG-19
Vinyl chloride		< 0.050		mg/L		0.05	07-AUG-19
Surrogate: 1,4-Difluorobenzen	e	98.4		%		70-130	07-AUG-19
Surrogate: 4-Bromofluorobenz	zene	97.2		%		70-130	07-AUG-19
WG3124175-9 MS	WG3124175-						
1,1-Dichloroethylene		88.7		%		50-140	07-AUG-19
1,2-Dichlorobenzene		102.7		%		50-140	07-AUG-19
1,2-Dichloroethane		114.3		%		50-140	07-AUG-19
1,4-Dichlorobenzene		99.6		%		50-140	07-AUG-19
Benzene		103.7		%		50-140	07-AUG-19
Carbon tetrachloride		92.8		%		50-140	07-AUG-19
Chlorobenzene		100.8		%		50-140	07-AUG-19
Chloroform		104.9		%		50-140	07-AUG-19
Dichloromethane		103.8		%		50-140	07-AUG-19
Methyl Ethyl Ketone		132.1		%		50-140	07-AUG-19
Tetrachloroethylene		91.4		%		50-140	07-AUG-19
Trichloroethylene		98.2		%		50-140	07-AUG-19
Vinyl chloride		107.7		%		50-140	07-AUG-19

Report Date: 07-AUG-19 Workorder: L2319997

CH2M HILL Canada Ltd. Client: Page 12 of 12

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Contact: VICTORIA PETERS

Legend:

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

Average Desorption Efficiency ADE

Method Blank MB

Internal Reference Material IRM 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 predetermined 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.

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Chain of Custody (COC) / Analytical Request Form

coc Number 17 - 31 07 2019

L2319997-COFC

Canada Toll Free: 1 800 568 9878 www.etsglobal.com Report To Cordect and company name below will appear on the final report Report Format / Distribution Select Service Level Below - Contact your All to confirm all ESP TATs (surcharges may apply) CH2M Hill/ Jacobs Company Select Report Formal OF POF SEENCE 20 EDG (DIGITAL) Regular [R] B Standard TAT if received by 3 pm - business days - no surcharges apply Victoria Peters Contact; Quality Control (QC) Report with Report III YES II NO 4 day [P4-20%] [0 1 Business day [E1 - 100%] ш Phone: 519-579-3500 x73252 Compare Results to Criteria on Report - provide details below if box checked 3 day [P3-25%] 🙃 Same Day, Weekend or Statutory holiday [E2 -200% Company address below will appear on the final report Select Distribution: 🗆 EMAIL ☐ MAIL ☐ FAX 2 day [P2-50%] 🗆 (Laboratory opening fees may apply)] Street 72 Victoria Street South, Suite 300 Email 1 or Fax as per quote Date and Time Regulard for all BEP TATE: CIM/Province: Kitchener, Ontario Email 2 For twels that can not be performed according to the service feret selected, you will be contacted Postal Code: N2G 4Y9 Email 3 Analysis Request Invoice To Same as Report To GA YES DI MO Invoice Distribution Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below (please provide further details Copy of Invaice with Report 2 YES D NO Select Invoice Distribution: D. EMAIL □ MAIL CH2M HILL Company. Email 1 or Fax Accounts Payable Victoria Peters Contact Email 2 BAS Project Information Oil and Gas Required Fields (client use) ALS Account # / Quote #. Q71421 AFE/Cost Center PO# Я Job # CE751900.A CS EV 19 19-01 dajor/Minor Code Routing Code: 둅 PO / AFE: Requisitioner: LSD: is hazardous Location: SAMPLES ON HOLD organics (Free ALS Lab Work Order # (lab use only): 2 ALS Contact: Sampler: V. Paters Siza ô Sample Identification and/or Coordinates ALS Sample # Oate Time PAHs Š Sample Type Srain (lab use only) ä 8 (This description will appear on the report) (dd-mmm-yy) (hh mm) COMP - 0-616 રુ*ઃ છ*1–ા૧ 17:30 SOIL soil ścil Soul sod 9 CH snif soil soil 204 soil Special instructions / Specify Criteria to add on report by clicking on the drop-down list below SAMPLE CONDITION AS RECEIVED (lab use only) Orinking Water (OW) Samples¹ (client use) (electronic COC only) Frazen SIF Observations П Are samples taken from a Requisted DW System? Ontario Regulation 153/04 - April 15, 2011 Standards ice Packs 🔲 ice Cubes 🖵 Custody seal intact П П O YES O NO Cooling Initiated Are samples for human consumption/ use? TLLP Parameters perfine INITIAL COOLER TEMPERATURES C FINAL COOLER TEMPERATURES TO D YES BY NO SHIPMENT RELEASE (client use) NITIAL SHIPMENT RECEPTION (lab use only) FINAL SHIPMENT RECEPTION (lab use only) Released by. Received by. Time Time: Received by: 2019 Time: 10.72 1115 REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY



CH2M HILL Canada Ltd.

ATTN: VICTORIA PETERS 245 CONSUMERS ROAD

SUITE 400

TORONTO ON M2J 1R3

Date Received: 31-JUL-19

Report Date: 26-SEP-19 11:36 (MT)

Version: DRAFT REV. 2

Client Phone: 416-499-9000

Certificate of Analysis

Lab Work Order #: L2320007

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV.19. 19-01

C of C Numbers: 17-20190731

Legal Site Desc:

Comments: ADDITIONAL 09-AUG-19 09:52

Mathy Mahadeva Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 95 West Beaver Creek Road, Unit 1, Richmond Hill, ON L4B 1H2 Canada | Phone: +1 905 881 9887 | Fax: +1 905 881 8062

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L2320007 CONTD....
PAGE 2 of 13
Version: DRAFT RE

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2320007-1 BH204 - 2.5-3.5' Sampled By: CLIENT on 30-JUL-19 @ 11:00 Matrix: SOIL							
Physical Tests							
Conductivity	0.610		0.0040	mS/cm		08-AUG-19	R4743528
% Moisture	16.4		0.10	%	01-AUG-19	02-AUG-19	R4737126
Cyanides							
Cyanide, Weak Acid Diss Organic / Inorganic Carbon	<0.050		0.050	ug/g	02-AUG-19	06-AUG-19	R4739965
Fraction Organic Carbon	0.0086		0.0010		07-AUG-19	07-AUG-19	R4742737
Fraction Organic Carbon	0.0086		0.0010		07-AUG-19	07-AUG-19	
Fraction Organic Carbon	0.0089		0.0010		07-AUG-19	07-AUG-19	
Average Fraction Organic Carbon	0.0087		0.0010		07-AUG-19	07-AUG-19	
Total Organic Carbon Total Organic Carbon	0.86 0.86		0.10 0.10	% %	07-AUG-19 07-AUG-19	07-AUG-19 07-AUG-19	
Total Organic Carbon Total Organic Carbon	0.89		0.10	%	07-AUG-19 07-AUG-19	07-AUG-19 07-AUG-19	
Saturated Paste Extractables	0.00		0.10	,	3. 7.30 13	3. 7.50 15	1.4142101
SAR	11.1		0.10	SAR		08-AUG-19	R4743431
Calcium (Ca)	7.86		0.50	mg/L		08-AUG-19	R4743431
Magnesium (Mg)	1.82		0.50	mg/L		08-AUG-19	
Sodium (Na)	133		0.50	mg/L		08-AUG-19	
Metals				· ·			
Antimony (Sb)	<1.0		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Arsenic (As)	3.3		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Barium (Ba)	54.3		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Beryllium (Be)	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4743729
Boron (B)	<5.0		5.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Boron (B), Hot Water Ext.	0.46		0.10	ug/g	08-AUG-19	08-AUG-19	R4743351
Cadmium (Cd)	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4743729
Chromium (Cr)	15.2		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Cobalt (Co)	4.8		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Copper (Cu)	9.7		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Lead (Pb)	25.3		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Mercury (Hg)	0.0848		0.0050	ug/g	07-AUG-19	08-AUG-19	
Molybdenum (Mo)	<1.0		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Nickel (Ni)	8.6		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Selenium (Se)	<1.0		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Silver (Ag)	<0.20		0.20	ug/g	07-AUG-19	08-AUG-19	R4743729
Thallium (TI)	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	
Uranium (U)	<1.0		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Vanadium (V)	32.8		1.0	ug/g	07-AUG-19	08-AUG-19	
Zinc (Zn)	73.6		5.0	ug/g	07-AUG-19	08-AUG-19	
Speciated Metals				3 0			
Chromium, Hexavalent	0.36		0.20	ug/g	01-AUG-19	06-AUG-19	R4739767
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4742707
Benzene	<0.0068		0.0068	ug/g	07-AUG-19	08-AUG-19	R4742707

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

L2320007 CONTD....
PAGE 3 of 13
Version: DRAFT RE

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2320007-1 BH204 - 2.5-3.5' Sampled By: CLIENT on 30-JUL-19 @ 11:00 Matrix: SOIL							
Volatile Organic Compounds							
Bromodichloromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Bromoform	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Bromomethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Carbon tetrachloride	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Chlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Dibromochloromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Chloroform	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,2-Dibromoethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,2-Dichlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,3-Dichlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,4-Dichlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Dichlorodifluoromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1-Dichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,2-Dichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1-Dichloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Methylene Chloride	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,2-Dichloropropane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	07-AUG-19	08-AUG-19	R4742707
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	07-AUG-19	08-AUG-19	R4742707
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		08-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	07-AUG-19	08-AUG-19	R4742707
n-Hexane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Methyl Ethyl Ketone	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4742707
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4742707
MTBE	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Styrene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Tetrachloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Toluene	<0.080		0.080	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1,1-Trichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1,2-Trichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Trichloroethylene	<0.010		0.010	ug/g	07-AUG-19	08-AUG-19	R4742707
Trichlorofluoromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Vinyl chloride	<0.020		0.020	ug/g	07-AUG-19	08-AUG-19	R4742707
o-Xylene	<0.020		0.020	ug/g	07-AUG-19	08-AUG-19	R4742707
m+p-Xylenes	<0.030		0.030	ug/g	07-AUG-19	08-AUG-19	R4742707
Xylenes (Total)	<0.050		0.050	ug/g		08-AUG-19	
Surrogate: 4-Bromofluorobenzene	90.1		50-140	%	07-AUG-19	08-AUG-19	R4742707

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

L2320007 CONTD....
PAGE 4 of 13
Version: DRAFT RE

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2320007-1 BH204 - 2.5-3.5' Sampled By: CLIENT on 30-JUL-19 @ 11:00 Matrix: SOIL							
Volatile Organic Compounds							
Surrogate: 1,4-Difluorobenzene	100.1		50-140	%	07-AUG-19	08-AUG-19	R4742707
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	07-AUG-19	08-AUG-19	R4742707
F1-BTEX	<5.0		5.0	ug/g		08-AUG-19	
F2 (C10-C16)	<10		10	ug/g	03-AUG-19	06-AUG-19	R4742615
F2-Naphth	<10		10	ug/g		08-AUG-19	
F3 (C16-C34)	<50		50	ug/g	03-AUG-19	06-AUG-19	R4742615
F3-PAH	<50		50	ug/g		08-AUG-19	
F4 (C34-C50)	<50		50	ug/g	03-AUG-19	06-AUG-19	R4742615
Total Hydrocarbons (C6-C50)	<72		72	ug/g		08-AUG-19	
Chrom. to baseline at nC50	YES				03-AUG-19	06-AUG-19	R4742615
Surrogate: 2-Bromobenzotrifluoride	92.8		60-140	%	03-AUG-19	06-AUG-19	R4742615
Surrogate: 3,4-Dichlorotoluene	84.6		60-140	%	07-AUG-19	08-AUG-19	R4742707
Polycyclic Aromatic Hydrocarbons	1						
Acenaphthene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Acenaphthylene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Anthracene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(a)anthracene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(a)pyrene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(b)fluoranthene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(k)fluoranthene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Chrysene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Fluoranthene	0.063		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Fluorene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		07-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	03-AUG-19	07-AUG-19	R4742241
2-Methylnaphthalene	<0.030		0.030	ug/g	03-AUG-19	07-AUG-19	R4742241
Naphthalene	<0.013		0.013	ug/g	03-AUG-19	07-AUG-19	R4742241
Phenanthrene	<0.046		0.046	ug/g	03-AUG-19	07-AUG-19	R4742241
Pyrene	0.057		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Surrogate: 2-Fluorobiphenyl	101.9		50-140	%	03-AUG-19	07-AUG-19	R4742241
Surrogate: p-Terphenyl d14	87.8		50-140	%	03-AUG-19	07-AUG-19	R4742241
L2320007-2 MW106 -0.5-1.5' Sampled By: CLIENT on 30-JUL-19 @ 15:30 Matrix: SOIL							
Physical Tests							
Conductivity	0.615		0.0040	mS/cm		08-AUG-19	R4743528
% Moisture	10.3		0.10	%	01-AUG-19	02-AUG-19	
Moisture	9.26		0.25	%		12-AUG-19	R4749089

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2320007-2 MW106 -0.5-1.5' Sampled By: CLIENT on 30-JUL-19 @ 15:30 Matrix: SOIL							
Physical Tests Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	02-AUG-19	06-AUG-19	R4739965
Saturated Paste Extractables							
SAR	13.9		0.10	SAR		08-AUG-19	
Calcium (Ca)	5.09		0.50	mg/L		08-AUG-19	R4743431
Magnesium (Mg)	0.67		0.50	mg/L		08-AUG-19	R4743431
Sodium (Na)	126		0.50	mg/L		08-AUG-19	R4743431
Metals							
Antimony (Sb)	2.7		1.0	ug/g	07-AUG-19	08-AUG-19	
Arsenic (As)	7.6		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Barium (Ba)	118		1.0	ug/g	07-AUG-19	08-AUG-19	
Beryllium (Be)	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	
Boron (B)	5.6		5.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Boron (B), Hot Water Ext.	0.34		0.10	ug/g	08-AUG-19	08-AUG-19	R4743351
Cadmium (Cd)	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	
Chromium (Cr)	17.5		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Cobalt (Co)	4.8		1.0	ug/g	07-AUG-19	08-AUG-19	
Copper (Cu)	81.5		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Lead (Pb)	383		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Mercury (Hg)	18.5	DLHC	5.0	ug/g	07-AUG-19	08-AUG-19	R4743675
Molybdenum (Mo)	<1.0		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Nickel (Ni)	12.4		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Selenium (Se)	<1.0		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Silver (Ag)	14.1		0.20	ug/g	07-AUG-19	08-AUG-19	R4743729
Thallium (TI)	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4743729
Uranium (U)	<1.0		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Vanadium (V)	22.9		1.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Zinc (Zn)	215		5.0	ug/g	07-AUG-19	08-AUG-19	R4743729
Speciated Metals							
Chromium, Hexavalent	0.23		0.20	ug/g	02-AUG-19	06-AUG-19	
Methylmercury (as MeHg)	0.00261		0.00050	mg/kg	19-AUG-19	27-AUG-19	R4767684
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	07-AUG-19		R4742707
Benzene	<0.0068		0.0068	ug/g	07-AUG-19	08-AUG-19	
Bromodichloromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Bromoform	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Bromomethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	_
Carbon tetrachloride	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Chlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Dibromochloromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Chloroform	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
1,2-Dibromoethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2320007-2 MW106 -0.5-1.5' Sampled By: CLIENT on 30-JUL-19 @ 15:30 Matrix: SOIL							
Volatile Organic Compounds							
1,2-Dichlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,3-Dichlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,4-Dichlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Dichlorodifluoromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1-Dichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
1,2-Dichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1-Dichloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Methylene Chloride	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,2-Dichloropropane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	07-AUG-19	08-AUG-19	R4742707
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	07-AUG-19	08-AUG-19	R4742707
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		08-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	07-AUG-19	08-AUG-19	R4742707
n-Hexane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Methyl Ethyl Ketone	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4742707
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4742707
МТВЕ	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Styrene	<0.050		0.050	ug/g	07-AUG-19		R4742707
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Tetrachloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Toluene	<0.080		0.080	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1,1-Trichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1,2-Trichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Trichloroethylene	<0.010		0.010	ug/g	07-AUG-19	08-AUG-19	R4742707
Trichlorofluoromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Vinyl chloride	<0.020		0.020	ug/g	07-AUG-19	08-AUG-19	R4742707
o-Xylene	0.024		0.020	ug/g	07-AUG-19	08-AUG-19	R4742707
m+p-Xylenes	<0.030		0.030	ug/g	07-AUG-19	08-AUG-19	R4742707
Xylenes (Total)	<0.050		0.050	ug/g		08-AUG-19	
Surrogate: 4-Bromofluorobenzene	90.0		50-140	%	07-AUG-19	08-AUG-19	R4742707
Surrogate: 1,4-Difluorobenzene	104.9		50-140	%	07-AUG-19	08-AUG-19	R4742707
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	07-AUG-19	08-AUG-19	R4742707
F1-BTEX	<5.0		5.0	ug/g		08-AUG-19	
F2 (C10-C16)	21	DLM	20	ug/g	03-AUG-19	06-AUG-19	R4742615
F2-Naphth	21		20	ug/g		08-AUG-19	
F3 (C16-C34)	1380	DLM	100	ug/g	03-AUG-19	06-AUG-19	R4742615
F3-PAH	1340		100	ug/g		08-AUG-19	

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2320007-2 MW106 -0.5-1.5' Sampled By: CLIENT on 30-JUL-19 @ 15:30 Matrix: SOIL							
Hydrocarbons							
F4 (C34-C50)	560	DLM	100	ug/g	03-AUG-19	06-AUG-19	R4742615
F4G-SG (GHH-Silica)	1360		250	ug/g	05-AUG-19	05-AUG-19	R4743277
Total Hydrocarbons (C6-C50)	1960		140	ug/g		08-AUG-19	
Chrom. to baseline at nC50	NO				03-AUG-19	06-AUG-19	R4742615
Surrogate: 2-Bromobenzotrifluoride	79.3		60-140	%	03-AUG-19	06-AUG-19	R4742615
Surrogate: 3,4-Dichlorotoluene	62.9		60-140	%	07-AUG-19	08-AUG-19	R4742707
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Acenaphthylene	2.00		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Anthracene	0.666		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(a)anthracene	3.32	R	0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(a)pyrene	7.70		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(b)fluoranthene	10.1		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(g,h,i)perylene	11.1		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Benzo(k)fluoranthene	2.98		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Chrysene	3.54		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Dibenzo(ah)anthracene	2.02		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Fluoranthene	4.73		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Fluorene	0.101		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Indeno(1,2,3-cd)pyrene	8.67		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
1+2-Methylnaphthalenes	0.146		0.042	ug/g		07-AUG-19	
1-Methylnaphthalene	0.068		0.030	ug/g	03-AUG-19	07-AUG-19	R4742241
2-Methylnaphthalene	0.078		0.030	ug/g	03-AUG-19	07-AUG-19	R4742241
Naphthalene	0.104		0.013	ug/g	03-AUG-19	07-AUG-19	R4742241
Phenanthrene	1.25		0.046	ug/g	03-AUG-19	07-AUG-19	R4742241
Pyrene	4.50		0.050	ug/g	03-AUG-19	07-AUG-19	R4742241
Surrogate: 2-Fluorobiphenyl	101.8		50-140	%	03-AUG-19	07-AUG-19	R4742241
Surrogate: p-Terphenyl d14	92.0		50-140	%	03-AUG-19	07-AUG-19	R4742241
L2320007-3 MW106 - 2-3' Sampled By: CLIENT on 30-JUL-19 @ 15:45 Matrix: SOIL							
Physical Tests							
% Moisture	7.91		0.10	%	10-AUG-19	10-AUG-19	R4746045
Moisture	8.23		0.25	%		12-AUG-19	R4749089
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Arsenic (As)	2.7		1.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Barium (Ba)	21.1		1.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Beryllium (Be)	<0.50		0.50	ug/g	15-AUG-19	16-AUG-19	R4757782
Boron (B)	5.1		5.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Boron (B), Hot Water Ext.	0.11		0.10	ug/g	15-AUG-19	16-AUG-19	R4757452
Cadmium (Cd)	<0.50		0.50	ug/g	15-AUG-19	16-AUG-19	R4757782

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

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Sample Details/Pa	arameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
	W106 - 2-3'							
Sampled By: CL Matrix: SC	LIENT on 30-JUL-19 @ 15:45 DIL							
Metals								
Chromium (Cr)		10.5		1.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Cobalt (Co)		3.6		1.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Copper (Cu)		9.0		1.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Lead (Pb)		49.5		1.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Mercury (Hg)		0.187		0.0050	ug/g	15-AUG-19	16-AUG-19	R4757522
Molybdenum (M	Mo)	<1.0		1.0	ug/g	15-AUG-19	16-AUG-19	
Nickel (Ni)		7.6		1.0	ug/g	15-AUG-19	16-AUG-19	
Selenium (Se)		<1.0		1.0	ug/g	15-AUG-19		
Silver (Ag)		<0.20		0.20	ug/g	15-AUG-19	16-AUG-19	
Thallium (TI)		<0.50		0.50	ug/g	15-AUG-19	16-AUG-19	R4757782
Uranium (U)		<1.0		1.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Vanadium (V)		22.9		1.0	ug/g	15-AUG-19	16-AUG-19	
Zinc (Zn) Speciated Meta	ale	151		5.0	ug/g	15-AUG-19	16-AUG-19	R4757782
Chromium, Hex		<0.20		0.20	ug/g	12-AUG-19	14-AUG-19	R4754470
Methylmercury		<0.20		0.000050	mg/kg	19-AUG-19	27-AUG-19	R4767684
Hydrocarbons	,	<0.000030		0.000030	ilig/kg	19-700-19	21-400-19	114707004
F1 (C6-C10)		<5.0		5.0	ug/g	13-AUG-19	14-AUG-19	R4753120
F2 (C10-C16)		<10		10	ug/g	10-AUG-19	12-AUG-19	R4749570
F2-Naphth		<10		10	ug/g		14-AUG-19	
F3 (C16-C34)		<50		50	ug/g	10-AUG-19	12-AUG-19	R4749570
F3-PAH		<50		50	ug/g		14-AUG-19	
F4 (C34-C50)		<50		50	ug/g	10-AUG-19	12-AUG-19	R4749570
Total Hydrocarb	bons (C6-C50)	<72		72	ug/g		14-AUG-19	
Chrom. to base	eline at nC50	YES			ppm	10-AUG-19	12-AUG-19	R4749570
Surrogate: 2-Br	romobenzotrifluoride	82.6		60-140	%	10-AUG-19	12-AUG-19	R4749570
Surrogate: 3,4-l		95.0		60-140	%	13-AUG-19	14-AUG-19	R4753120
	matic Hydrocarbons							
Acenaphthene		<0.050		0.050	ug/g	10-AUG-19	13-AUG-19	R4751191
Acenaphthylene	e	<0.050		0.050	ug/g	10-AUG-19	13-AUG-19	
Anthracene		<0.050		0.050	ug/g	10-AUG-19	13-AUG-19	
Benzo(a)anthra		<0.050		0.050	ug/g	10-AUG-19		
Benzo(a)pyrene		<0.050	_	0.050	ug/g	10-AUG-19	13-AUG-19	
Benzo(b)fluorar		0.061	R	0.050	ug/g	10-AUG-19	13-AUG-19 13-AUG-19	
Benzo(g,h,i)per		<0.050		0.050	ug/g	10-AUG-19		R4751191
Benzo(k)fluoran Chrysene	ILLIGHT	<0.050		0.050	ug/g	10-AUG-19 10-AUG-19	13-AUG-19 13-AUG-19	
Dibenzo(ah)ant	thracene	<0.050 <0.050		0.050 0.050	ug/g ug/g	10-AUG-19 10-AUG-19		R4751191 R4751191
Fluoranthene	inacone	<0.050		0.050	ug/g ug/g	10-AUG-19	13-AUG-19	
Fluorantinene		<0.050 <0.050		0.050	ug/g ug/g	10-AUG-19 10-AUG-19		R4751191 R4751191
Indeno(1,2,3-cd	d)pyrene	<0.050		0.050	ug/g ug/g	10-AUG-19		R4751191
1+2-Methylnaph		<0.042		0.030	ug/g ug/g	.07.00 10	13-AUG-19	13701101
Z Mourymapi		\U.U4Z		0.042	49/9		107.00-19	

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2320007-3 MW106 - 2-3' Sampled By: CLIENT on 30-JUL-19 @ 15:45 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
1-Methylnaphthalene	<0.030		0.030	ug/g	10-AUG-19	13-AUG-19	R4751191
2-Methylnaphthalene	<0.030		0.030	ug/g	10-AUG-19	13-AUG-19	R4751191
Naphthalene	<0.013		0.013	ug/g	10-AUG-19	13-AUG-19	
Phenanthrene	<0.046		0.046	ug/g	10-AUG-19	13-AUG-19	
Pyrene	<0.050		0.050	ug/g	10-AUG-19	13-AUG-19	R4751191
Surrogate: 2-Fluorobiphenyl	94.6		50-140	%	10-AUG-19	13-AUG-19	
Surrogate: p-Terphenyl d14	80.3		50-140	%	10-AUG-19	13-AUG-19	R4751191
L2320007-4 TB-002 Sampled By: CLIENT on 30-JUL-19 Matrix: SOIL							
Physical Tests							
% Moisture	<0.10		0.10	%	01-AUG-19	02-AUG-19	R4737126
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	
Benzene	<0.0068		0.0068	ug/g	07-AUG-19	08-AUG-19	
Bromodichloromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Bromoform	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Bromomethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Carbon tetrachloride	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
Chlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Dibromochloromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Chloroform	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
1,2-Dibromoethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,2-Dichlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
1,3-Dichlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
1,4-Dichlorobenzene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Dichlorodifluoromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
1,1-Dichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
1,2-Dichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1-Dichloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Methylene Chloride	<0.050		0.050	ug/g	07-AUG-19		R4742707
1,2-Dichloropropane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	07-AUG-19	08-AUG-19	R4742707
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	07-AUG-19	08-AUG-19	R4742707
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		08-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	07-AUG-19	08-AUG-19	R4742707
n-Hexane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Methyl Ethyl Ketone	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4742707
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	07-AUG-19	08-AUG-19	R4742707
MTBE	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707

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

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L2320007-4 TB-002 Sampled By: CLIENT on 30-JUL-19 Motion: Solid Polarite Computed Solid Polari	Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
Volatile Organic Compounds <th< td=""><td>Sampled By: CLIENT on 30-JUL-19</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>	Sampled By: CLIENT on 30-JUL-19							
Styrene <0.050 ug/g 07-AUG-19 08-AUG-19 R4742707 1,1,1,2-Tetrachloroethane <0.050								
1,1,1,2-Tetrachloroethane <0.050		<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Tetrachloroethylene <0.050 0.050 ug/g 07-AUG-19 08-AUG-19 R4742707 Toluene <0.080	1,1,1,2-Tetrachloroethane	<0.050		0.050		07-AUG-19	08-AUG-19	R4742707
Toluene <0.080 0.080 ug/g 07-AUG-19 08-AUG-19 R4742707 1,1,1-Trichloroethane <0.050	1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1,1-Trichloroethane <0.050	Tetrachloroethylene	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
1,1,2-Trichloroethane <0.050	Toluene	<0.080		0.080	ug/g	07-AUG-19	08-AUG-19	R4742707
Trichloroethylene <0.010 ug/g 07-AUG-19 08-AUG-19 R4742707 Trichlorofluoromethane <0.050	1,1,1-Trichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Trichlorofluoromethane <0.050	1,1,2-Trichloroethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
Vinyl chloride <0.020 0.020 ug/g 07-AUG-19 08-AUG-19 R4742707 o-Xylene <0.020	Trichloroethylene	<0.010		0.010	ug/g	07-AUG-19	08-AUG-19	R4742707
o-Xylene <0.020	Trichlorofluoromethane	<0.050		0.050	ug/g	07-AUG-19	08-AUG-19	R4742707
m+p-Xylenes <0.030	Vinyl chloride	<0.020		0.020	ug/g	07-AUG-19	08-AUG-19	R4742707
Xylenes (Total) <0.050	o-Xylene	<0.020		0.020	ug/g	07-AUG-19	08-AUG-19	R4742707
Surrogate: 4-Bromofluorobenzene 100.4 50-140 % 07-AUG-19 08-AUG-19 R4742707	m+p-Xylenes	<0.030		0.030	ug/g	07-AUG-19	08-AUG-19	R4742707
	Xylenes (Total)	<0.050		0.050	ug/g		08-AUG-19	
Surrogate: 1,4-Diffuorobenzene 113.0 50-140 % 07-AUG-19 08-AUG-19 R4742707	Surrogate: 4-Bromofluorobenzene	100.4		50-140	%	07-AUG-19	08-AUG-19	R4742707
	Surrogate: 1,4-Difluorobenzene	113.0		50-140	%	07-AUG-19	08-AUG-19	R4742707

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

CE751900.A.CS.EV.19. 19-01

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QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Laboratory Control Sample	Dichlorodifluoromethane	LCS-L	L2320007-1, -2, -4

Sample Parameter Qualifier key listed:

Qualifier	Description
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
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.
R	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.

Test Method References:

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

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).

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

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).

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 CCME CWS-PHC, Pub #1310, Dec 2001-S Parameters

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.

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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), 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), 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).

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).

MEHG-GCAF-VA Soil Methylmercury in Soil by GCAFS DeWild et al. (2004)

This method follows procedures published by DeWild, Olund, Olsen and Tate (2004) for the US Geological Survey (Techniques and Methods 5A-7). Samples are leached with an acidic copper sulphate solution to solubilize methylmercury for inorganic complexes. The methylmercury is then extracted into dichloromethane and then an aliquot is back extracted into ultra-pure water. The extract is analyzed by aqueous phase ethylation, purge and trap, desorption and GC separation. The separated species are then pyrolized to elemental Hg and quantified by cold vapour atomic flourescence spectroscopy. Results are reported "as MeHg".

MET-200.2-CCMS-WT Soil Metals in Soil by CRC ICPMS EPA 200.2/6020A (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-VA Soil Moisture content CCME PHC in Soil - Tier 1 (mod)

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of two hours.

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

Reference Information

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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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

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).

TOC-R511-WT Soil TOC & FOC-O.Reg 153/04 (July CARTER 21.3.2

2011)

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).

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), 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- Soil Sum of Xylene Isomer CALCULATION

VT Concentrations

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:

17-20190731

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.



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Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	Soil							
Batch R4743351 WG3126447-4 DUP Boron (B), Hot Water Ext	t.	L2321544-1 <0.10	<0.10	RPD-NA	ug/g	N/A	30	08-AUG-19
WG3126447-2 IRM Boron (B), Hot Water Ext	t.	WT SAR3	103.0		%		70-130	08-AUG-19
WG3126447-3 LCS Boron (B), Hot Water Ext	t.		97.6		%		70-130	08-AUG-19
WG3126447-1 MB Boron (B), Hot Water Ext	t.		<0.10		ug/g		0.1	08-AUG-19
Batch R4757452								
WG3133979-4 DUP Boron (B), Hot Water Ext	t.	L2325961-9 <0.10	<0.10	RPD-NA	ug/g	N/A	30	16-AUG-19
WG3133979-2 IRM Boron (B), Hot Water Ext	t.	WT SAR3	81.3	Y	%		70-130	16-AUG-19
WG3133979-3 LCS Boron (B), Hot Water Ext	t.		93.4		%		70-130	16-AUG-19
WG3133979-1 MB Boron (B), Hot Water Ext	t.		<0.10		ug/g		0.1	16-AUG-19
CN-WAD-R511-WT	Soil							
Batch R4739965 WG3122950-3 DUP Cyanide, Weak Acid Diss	S	L2319795-1 <0.050	<0.050	RPD-NA	ug/g	N/A	35	06-AUG-19
WG3122950-2 LCS Cyanide, Weak Acid Diss	S		97.6		%		80-120	06-AUG-19
WG3122950-1 MB Cyanide, Weak Acid Diss	S		<0.050		ug/g		0.05	06-AUG-19
WG3122950-4 MS Cyanide, Weak Acid Diss	S	L2319795-1	105.5		%		70-130	06-AUG-19
CR-CR6-IC-WT	Soil							
Batch R4739767 WG3122095-4 CRM		WT-SQC012						
Chromium, Hexavalent			88.1		%		70-130	06-AUG-19
WG3122095-3 DUP Chromium, Hexavalent		L2319795-1 <0.20	<0.20	RPD-NA	ug/g	N/A	35	06-AUG-19
WG3122095-2 LCS Chromium, Hexavalent			97.8		%		80-120	06-AUG-19
WG3122095-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	06-AUG-19



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Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix Re	eference	Result C	Qualifier	Units	RPD	Limit	Analyzed
CR-CR6-IC-WT	Soil							
Batch R4739772 WG3122358-4 CRM Chromium, Hexavalent	W	VT-SQC012	108.8		%		70-130	06-AUG-19
WG3122358-3 DUP Chromium, Hexavalent		2315407-11 :0.20	<0.20	RPD-NA	ug/g	N/A	35	06-AUG-19
WG3122358-2 LCS Chromium, Hexavalent			91.6		%		80-120	06-AUG-19
WG3122358-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	06-AUG-19
Batch R4754470 WG3129667-4 CRM Chromium, Hexavalent	W	VT-SQC012	87.6		%		70-130	14-AUG-19
WG3129667-3 DUP Chromium, Hexavalent		2325466-2 0.20	<0.20	RPD-NA	ug/g	N/A	35	14-AUG-19
WG3129667-2 LCS Chromium, Hexavalent			91.5		%		80-120	14-AUG-19
WG3129667-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	14-AUG-19
EC-WT	Soil							
Batch R4743528 WG3126453-4 DUP Conductivity		VG3126453-3 .0771	0.0807		mS/cm	4.6	20	08-AUG-19
WG3126453-2 IRM Conductivity	W	VT SAR3	86.0		%		70-130	08-AUG-19
WG3126846-1 LCS Conductivity			97.3		%		90-110	08-AUG-19
WG3126453-1 MB Conductivity			<0.0040		mS/cm		0.004	08-AUG-19
F1-HS-511-WT	Soil							
Batch R4742707 WG3125362-4 DUP F1 (C6-C10)		VG3125362-3 :5.0	<5.0	RPD-NA	ug/g	N/A	30	08-AUG-19
WG3125362-2 LCS F1 (C6-C10)			109.6		%		80-120	07-AUG-19
WG3125362-1 MB F1 (C6-C10)			<5.0		ug/g		5	07-AUG-19
Surrogate: 3,4-Dichloroto	oluene		90.1		%		60-140	07-AUG-19
WG3125362-6 MS	L	2320007-2						



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TORONTO ON M2J 1R3

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT		Soil							
Batch R4 WG3125362-6	1742707 MS		L2320007-2						
F1 (C6-C10)	WIO		L2320001-2	95.1		%		60-140	08-AUG-19
Batch R4	1753120								
WG3130953-4 F1 (C6-C10)	DUP		WG3130953-3 <5.0	<5.0	RPD-NA	ug/g	N/A	30	14-AUG-19
WG3130953-2 F1 (C6-C10)	LCS			118.4		%		80-120	14-AUG-19
WG3130953-1 F1 (C6-C10)	MB			<5.0		ug/g		5	14-AUG-19
Surrogate: 3,4-	Dichloroto	oluene		107.6		%		60-140	14-AUG-19
WG3130953-6 F1 (C6-C10)	MS		L2325599-2	96.1	2 K	%		60-140	14-AUG-19
F2-F4-511-WT		Soil							
Batch R4	1742615								
WG3123553-3 F2 (C10-C16)	DUP		WG3123553-5 <10	<10	RPD-NA	ug/g	N/A	30	06-AUG-19
F3 (C16-C34)			<50	<50	RPD-NA	ug/g	N/A	30	06-AUG-19
F4 (C34-C50)			<50	<50	RPD-NA	ug/g	N/A	30	06-AUG-19
WG3123553-2 F2 (C10-C16)	LCS			106.4		%		80-120	06-AUG-19
F3 (C16-C34)				103.2		%		80-120	06-AUG-19
F4 (C34-C50)				109.8		%		80-120	06-AUG-19
WG3123553-1 F2 (C10-C16)	MB			<10		ug/g		10	06-AUG-19
F3 (C16-C34)				<50		ug/g		50	06-AUG-19
F4 (C34-C50)				<50		ug/g		50	06-AUG-19
Surrogate: 2-Br	romobenz	otrifluoride		94.4		%		60-140	06-AUG-19
WG3123553-4 F2 (C10-C16)	MS		WG3123553-5	103.2		%		60-140	06-AUG-19
F3 (C16-C34)				105.5		%		60-140	06-AUG-19
F4 (C34-C50)				104.4		%		60-140	06-AUG-19
Batch R4	1749570								
WG3129174-3	DUP		WG3129174-5	40					
F2 (C10-C16)			<10	<10	RPD-NA	ug/g	N/A	30	12-AUG-19
F3 (C16-C34)			<50	<50	RPD-NA	ug/g	N/A	30	12-AUG-19



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Test	Matrix Refe	erence Re	sult Qual	ifier (Units	RPD	Limit	Analyzed
F2-F4-511-WT	Soil							
Batch R4749570								
WG3129174-3 DUP F4 (C34-C50)	WG <50	3129174-5) <5	60 RI	PD-NA	ug/g	N/A	30	12-AUG-19
WG3129174-2 LCS F2 (C10-C16)		10	2.8		%		80-120	12-AUG-19
F3 (C16-C34)		10	4.7		%		80-120	12-AUG-19
F4 (C34-C50)		99	.8		%		80-120	12-AUG-19
WG3129174-1 MB F2 (C10-C16)		<1	0		ug/g		10	12-AUG-19
F3 (C16-C34)		<5	60		ug/g			12-AUG-19
F4 (C34-C50)		<5	50		ug/g			12-AUG-19
Surrogate: 2-Bromobenz	otrifluoride	76	5.6		%		60-140	12-AUG-19
WG3129174-4 MS		3129174-5						
F2 (C10-C16)		11	3.0		%		60-140	12-AUG-19
F3 (C16-C34)		12	0.4		%		60-140	12-AUG-19
F4 (C34-C50)		11	4.1		%		60-140	12-AUG-19
F4G-ADD-511-WT	Soil							
Batch R4743277 WG3126806-2 LCS F4G-SG (GHH-Silica)		79	3		%		60-140	05-AUG-19
WG3126806-1 MB								05-A0G-19
F4G-SG (GHH-Silica)		<2	250		ug/g		250	05-AUG-19
HG-200.2-CVAA-WT	Soil							
Batch R4743675								
WG3126195-2 CRM Mercury (Hg)	WT	-CANMET-TILL 94			%		70-130	08-AUG-19
WG3126195-6 DUP Mercury (Hg)	WG	3126195-5 065 0.0	0063		ug/g	2.0	40	08-AUG-19
WG3126195-3 LCS Mercury (Hg)		10	14.5		%		80-120	08-AUG-19
WG3126195-1 MB Mercury (Hg)			0.0050		mg/kg			08-AUG-19
		ζ0			9/1/9		0.000	00-A0G-18
Batch R4757522	WT	CANMET TILL	4					
WG3134180-2 CRM Mercury (Hg)	W I	-CANMET-TILL 95			%		70-130	16-AUG-19
WG3134180-6 DUP Mercury (Hg)	WG 0.02	3134180-5 267 0.0	0258		ug/g	3.3	40	16-AUG-19
WG3134180-3 LCS								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAA-WT	Soil							
Batch R4757522								
WG3134180-3 LCS			117.5		0/		00.463	10 1110 15
Mercury (Hg)			117.5		%		80-120	16-AUG-19
WG3134180-1 MB Mercury (Hg)			<0.0050		mg/kg		0.005	16-AUG-19
MEHG-GCAF-VA	Soil							
Batch R4767684								
WG3136906-2 CRM	,	SQC-MEHG-R						
Methylmercury (as MeHg	3)		89.4		%		70-130	29-AUG-19
WG3136906-4 DUP Methylmercury (as MeHg	7)	L2320007-3 < 0.000050	<0.000050	RPD-NA	mg/kg	N/A	30	27-AUG-19
WG3136906-3 LCS	ופ	.0.00000	10.000000	IXI DANA	en en	IN/A	50	21-700-19
Methylmercury (as MeHo	g)		87.1		%		70-130	23-AUG-19
WG3136906-1 MB					•			
Methylmercury (as MeHg	g)		<0.000050		mg/kg wwt		0.00005	23-AUG-19
MET-200.2-CCMS-WT	Soil							
Batch R4743729								
WG3126195-2 CRM		WT-CANMET-	FILL1 99.6		%		70.400	00 4110 40
Antimony (Sb) Arsenic (As)			98.6		%		70-130	08-AUG-19
Barium (Ba)			92.5		%		70-130 70-130	08-AUG-19
Beryllium (Be)			102.6		%		70-130 70-130	08-AUG-19 08-AUG-19
Boron (B)			3.1		mg/kg		0-8.2	08-AUG-19
Cadmium (Cd)			97.6		g/kg %		70-130	08-AUG-19
Chromium (Cr)			99.3		%		70-130	08-AUG-19
Cobalt (Co)			98.2		%		70-130	08-AUG-19
Copper (Cu)			99.5		%		70-130	08-AUG-19
Lead (Pb)			96.7		%		70-130	08-AUG-19
Molybdenum (Mo)			101.3		%		70-130	08-AUG-19
Nickel (Ni)			98.2		%		70-130	08-AUG-19
Selenium (Se)			0.30		mg/kg		0.11-0.51	08-AUG-19
Silver (Ag)			0.23		mg/kg		0.13-0.33	08-AUG-19
Thallium (TI)			0.118		mg/kg		0.077-0.18	08-AUG-19
Uranium (U)			97.6		%		70-130	08-AUG-19
Vanadium (V)			99.0		%		70-130	08-AUG-19
Zinc (Zn)			96.0		%		70-130	08-AUG-19
WG3126195-6 DUP		WG3126195-5						



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4743729								
WG3126195-6 DUP Antimony (Sb)		WG3126195-5 <0.10	<0.10	RPD-NA	ug/g	N/A	30	08-AUG-19
Arsenic (As)		1.70	1.62		ug/g	5.2	30	08-AUG-19
Barium (Ba)		23.9	23.4		ug/g	2.3	40	08-AUG-19
Beryllium (Be)		0.17	0.19		ug/g	8.1	30	08-AUG-19
Boron (B)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	08-AUG-19
Cadmium (Cd)		0.060	0.065		ug/g	8.0	30	08-AUG-19
Chromium (Cr)		6.88	7.56		ug/g	9.4	30	08-AUG-19
Cobalt (Co)		3.12	3.13		ug/g	0.1	30	08-AUG-19
Copper (Cu)		7.01	6.98		ug/g	0.4	30	08-AUG-19
Lead (Pb)		4.94	4.60		ug/g	7.1	40	08-AUG-19
Molybdenum (Mo)		0.23	0.22		ug/g	5.6	40	08-AUG-19
Nickel (Ni)		6.12	6.20		ug/g	1.2	30	08-AUG-19
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	08-AUG-19
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	08-AUG-19
Thallium (TI)		<0.050	<0.050	RPD-NA	ug/g	N/A	30	08-AUG-19
Uranium (U)		0.313	0.317		ug/g	1.3	30	08-AUG-19
Vanadium (V)		13.8	16.0		ug/g	15	30	08-AUG-19
Zinc (Zn)		20.5	21.5		ug/g	5.0	30	08-AUG-19
WG3126195-4 LCS Antimony (Sb)			97.9		%		80-120	08-AUG-19
Arsenic (As)			95.1		%		80-120	08-AUG-19
Barium (Ba)			97.2		%		80-120	08-AUG-19
Beryllium (Be)			94.2		%		80-120	08-AUG-19
Boron (B)			84.0		%		80-120	08-AUG-19
Cadmium (Cd)			95.4		%		80-120	08-AUG-19
Chromium (Cr)			92.6		%		80-120	08-AUG-19
Cobalt (Co)			93.4		%		80-120	08-AUG-19
Copper (Cu)			92.8		%		80-120	08-AUG-19
Lead (Pb)			92.4		%		80-120	08-AUG-19
Molybdenum (Mo)			96.8		%		80-120	08-AUG-19
Nickel (Ni)			92.1		%		80-120	08-AUG-19
Selenium (Se)			95.8		%		80-120	08-AUG-19
Silver (Ag)			94.9		%		80-120	08-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							_
Batch R4743729								
WG3126195-4 LCS					0/			
Thallium (TI)			90.7		%		80-120	08-AUG-19
Uranium (U)			94.3		%		80-120	08-AUG-19
Vanadium (V)			95.5		%		80-120	08-AUG-19
Zinc (Zn)			90.8		%		80-120	08-AUG-19
WG3126195-1 MB Antimony (Sb)			<0.10		mg/kg		0.1	08-AUG-19
Arsenic (As)			<0.10		mg/kg		0.1	08-AUG-19
Barium (Ba)			<0.50	`	mg/kg	•	0.5	08-AUG-19
Beryllium (Be)			<0.10		mg/kg		0.1	08-AUG-19
Boron (B)			<5.0		mg/kg		5	08-AUG-19
Cadmium (Cd)			<0.020	\wedge \vee	mg/kg		0.02	08-AUG-19
Chromium (Cr)			<0.50		mg/kg		0.5	08-AUG-19
Cobalt (Co)			<0.10		mg/kg		0.1	08-AUG-19
Copper (Cu)			<0.50		mg/kg		0.5	08-AUG-19
Lead (Pb)			<0.50		mg/kg		0.5	08-AUG-19
Molybdenum (Mo)			<0.10		mg/kg		0.1	08-AUG-19
Nickel (Ni)			<0.50		mg/kg		0.5	08-AUG-19
Selenium (Se)			<0.20		mg/kg		0.2	08-AUG-19
Silver (Ag)			<0.10		mg/kg		0.1	08-AUG-19
Thallium (TI)			< 0.050		mg/kg		0.05	08-AUG-19
Uranium (U)			< 0.050		mg/kg		0.05	08-AUG-19
Vanadium (V)			<0.20		mg/kg		0.2	08-AUG-19
Zinc (Zn)			<2.0		mg/kg		2	08-AUG-19
Batch R4757782								
WG3134180-2 CRM		WT-CANMET-						
Antimony (Sb)			92.9		%		70-130	16-AUG-19
Arsenic (As)			96.4		%		70-130	16-AUG-19
Barium (Ba)			95.1		%		70-130	16-AUG-19
Beryllium (Be)			91.4		%		70-130	16-AUG-19
Boron (B)			2.9		mg/kg		0-8.2	16-AUG-19
Cadmium (Cd)			99.6		%		70-130	16-AUG-19
Chromium (Cr)			101.2		%		70-130	16-AUG-19
Cobalt (Co)			99.1		%		70-130	16-AUG-19
Copper (Cu)			99.6		%		70-130	16-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4757782								
WG3134180-2 CRM		WT-CANMET						
Lead (Pb)			92.5		%		70-130	16-AUG-19
Molybdenum (Mo)			97.3		%		70-130	16-AUG-19
Nickel (Ni)			99.2		%		70-130	16-AUG-19
Selenium (Se)			0.31		mg/kg		0.11-0.51	16-AUG-19
Silver (Ag)			0.21		mg/kg		0.13-0.33	16-AUG-19
Thallium (TI)			0.115		mg/kg		0.077-0.18	16-AUG-19
Uranium (U)			92.4		%		70-130	16-AUG-19
Vanadium (V)			100.4		%		70-130	16-AUG-19
Zinc (Zn)			91.7		%		70-130	16-AUG-19
WG3134180-6 DUP Antimony (Sb)		WG3134180- 0.11	5 0.10	AV	ug/g	11	30	16-AUG-19
Arsenic (As)		3.03	2.71		ug/g	11	30	16-AUG-19
Barium (Ba)		88.5	79.0		ug/g	11	40	16-AUG-19
Beryllium (Be)		0.56	0.50		ug/g	11	30	16-AUG-19
Boron (B)		9.2	8.2		ug/g	11	30	16-AUG-19
Cadmium (Cd)		0.099	0.089		ug/g	11	30	16-AUG-19
Chromium (Cr)		23.3	20.8		ug/g	11	30	16-AUG-19
Cobalt (Co)		13.6	12.2		ug/g	11	30	16-AUG-19
Copper (Cu)		16.1	14.4		ug/g	11	30	16-AUG-19
Lead (Pb)		9.60	8.57		ug/g	11	40	16-AUG-19
Molybdenum (Mo)		0.30	0.27		ug/g	11	40	16-AUG-19
Nickel (Ni)		17.1	15.3		ug/g	11	30	16-AUG-19
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	16-AUG-19
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	16-AUG-19
Thallium (TI)		0.128	0.114		ug/g	11	30	16-AUG-19
Uranium (U)		0.503	0.449		ug/g	11	30	16-AUG-19
Vanadium (V)		35.1	31.3		ug/g	11	30	16-AUG-19
Zinc (Zn)		43.3	38.6		ug/g	11	30	16-AUG-19
WG3134180-4 LCS			102.0		0/			
Antimony (Sb)			102.0		%		80-120	16-AUG-19
Arsenic (As)			99.8		%		80-120	16-AUG-19
Barium (Ba)			98.3		%		80-120	16-AUG-19
Beryllium (Be)			98.0		%		80-120	16-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4757782								
WG3134180-4 LCS					0.4			
Boron (B)			92.2		%		80-120	16-AUG-19
Cadmium (Cd)			98.9		%		80-120	16-AUG-19
Chromium (Cr)			98.5		%		80-120	16-AUG-19
Cobalt (Co)			96.3		%		80-120	16-AUG-19
Copper (Cu)			96.8		%		80-120	16-AUG-19
Lead (Pb)			96.2		%		80-120	16-AUG-19
Molybdenum (Mo)			98.6	· ·	%		80-120	16-AUG-19
Nickel (Ni)			96.5		%		80-120	16-AUG-19
Selenium (Se)			104.3		%		80-120	16-AUG-19
Silver (Ag)			83.3		%		80-120	16-AUG-19
Thallium (TI)			97.6		%		80-120	16-AUG-19
Uranium (U)			92.9		%		80-120	16-AUG-19
Vanadium (V)			99.6		%		80-120	16-AUG-19
Zinc (Zn)			95.0		%		80-120	16-AUG-19
WG3134180-1 MB				Ť				
Antimony (Sb)			<0.10		mg/kg		0.1	16-AUG-19
Arsenic (As)			<0.10		mg/kg		0.1	16-AUG-19
Barium (Ba)			<0.50		mg/kg		0.5	16-AUG-19
Beryllium (Be)			<0.10		mg/kg		0.1	16-AUG-19
Boron (B)			<5.0		mg/kg		5	16-AUG-19
Cadmium (Cd)			<0.020		mg/kg		0.02	16-AUG-19
Chromium (Cr)			<0.50		mg/kg		0.5	16-AUG-19
Cobalt (Co)			<0.10		mg/kg		0.1	16-AUG-19
Copper (Cu)			<0.50		mg/kg		0.5	16-AUG-19
Lead (Pb)			<0.50		mg/kg		0.5	16-AUG-19
Molybdenum (Mo)			<0.10		mg/kg		0.1	16-AUG-19
Nickel (Ni)			<0.50		mg/kg		0.5	16-AUG-19
Selenium (Se)			<0.20		mg/kg		0.2	16-AUG-19
Silver (Ag)			<0.10		mg/kg		0.1	16-AUG-19
Thallium (TI)			<0.050		mg/kg		0.05	16-AUG-19
Uranium (U)			<0.050		mg/kg		0.05	16-AUG-19
Vanadium (V)			<0.20		mg/kg		0.2	16-AUG-19
Zinc (Zn)			<2.0		mg/kg		2	16-AUG-19
MOISTURE-VA	Soil							



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-VA	Soil							
Batch R4749089 WG3130688-3 DUP Moisture		L2320007-2 9.26	9.07		%	2.1	20	12-AUG-19
WG3130688-2 LCS Moisture			101.3		%		90-110	12-AUG-19
WG3130688-1 MB Moisture			<0.25		%		0.25	12-AUG-19
MOISTURE-WT	Soil							
Batch R4737126 WG3122283-3 DUP		L2321698-2	0.40			•		
% Moisture		2.96	3.10		%	4.6	20	02-AUG-19
WG3122283-2 LCS % Moisture			100.8	a V	%		90-110	02-AUG-19
WG3122283-1 MB % Moisture			<0.10		%		0.1	02-AUG-19
Batch R4746045 WG3129085-3 DUP % Moisture		L2320007-3 7.91	8.02		%	1.3	20	10-AUG-19
WG3129085-2 LCS % Moisture			100.8		%		90-110	10-AUG-19
WG3129085-1 MB % Moisture			<0.10		%		0.1	10-AUG-19
PAH-511-WT	Soil							
Batch R4742241								
WG3123534-3 DUP 1-Methylnaphthalene		WG3123534- 5	5 <0.030	RPD-NA	ug/g	N/A	40	07-AUG-19
2-Methylnaphthalene		<0.030	< 0.030	RPD-NA	ug/g	N/A	40	07-AUG-19
Acenaphthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Acenaphthylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Benzo(b)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Chrysene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Dibenzo(ah)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4742241								
WG3123534-3 DUP Fluoranthene		WG3123534-5 <0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Fluorene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	07-AUG-19
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	07-AUG-19
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-AUG-19
WG3123534-2 LCS 1-Methylnaphthalene			98.2		%		50-140	07-AUG-19
2-Methylnaphthalene			93.1		%		50-140	07-AUG-19
Acenaphthene			99.0		%		50-140	07-AUG-19
Acenaphthylene			99.3		%		50-140	07-AUG-19
Anthracene			96.9		%		50-140	07-AUG-19
Benzo(a)anthracene			97.2		%		50-140	07-AUG-19
Benzo(a)pyrene			95.4		%		50-140	07-AUG-19
Benzo(b)fluoranthene			104.8		%		50-140	07-AUG-19
Benzo(g,h,i)perylene			100.8		%		50-140	07-AUG-19
Benzo(k)fluoranthene			88.9		%		50-140	07-AUG-19
Chrysene			100.3		%		50-140	07-AUG-19
Dibenzo(ah)anthracene			101.9		%		50-140	07-AUG-19
Fluoranthene			95.9		%		50-140	07-AUG-19
Fluorene			97.1		%		50-140	07-AUG-19
Indeno(1,2,3-cd)pyrene			98.0		%		50-140	07-AUG-19
Naphthalene			96.3		%		50-140	07-AUG-19
Phenanthrene			98.4		%		50-140	07-AUG-19
Pyrene			95.3		%		50-140	07-AUG-19
WG3123534-1 MB 1-Methylnaphthalene			<0.030		ug/g		0.03	07-AUG-19
2-Methylnaphthalene			< 0.030		ug/g		0.03	07-AUG-19
Acenaphthene			< 0.050		ug/g		0.05	07-AUG-19
Acenaphthylene			<0.050		ug/g		0.05	07-AUG-19
Anthracene			<0.050		ug/g		0.05	07-AUG-19
Benzo(a)anthracene			<0.050		ug/g		0.05	07-AUG-19
Benzo(a)pyrene			<0.050		ug/g		0.05	07-AUG-19
Benzo(b)fluoranthene			<0.050		ug/g		0.05	07-AUG-19



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245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R47422	241							
WG3123534-1 ME Benzo(g,h,i)perylene			<0.050		ug/g		0.05	07 4110 40
Benzo(k)fluoranthen			<0.050		ug/g ug/g		0.05	07-AUG-19 07-AUG-19
Chrysene			<0.050		ug/g		0.05	07-AUG-19 07-AUG-19
Dibenzo(ah)anthrace	ane		<0.050		ug/g ug/g		0.05	07-AUG-19 07-AUG-19
Fluoranthene	Silo		<0.050		ug/g		0.05	07-AUG-19 07-AUG-19
Fluorene			<0.050		ug/g		0.05	07-AUG-19 07-AUG-19
Indeno(1,2,3-cd)pyre	ane		<0.050		ug/g		0.05	
Naphthalene	5110		<0.030	<u> </u>	ug/g	▼	0.03	07-AUG-19 07-AUG-19
Phenanthrene			<0.013		ug/g ug/g		0.013	07-AUG-19 07-AUG-19
Pyrene			<0.050		ug/g		0.040	07-AUG-19 07-AUG-19
Surrogate: 2-Fluorok	oinhenvl		96.0	AV	% %		50-140	07-AUG-19
Surrogate: p-Terphe			81.6		%		50-140	07-AUG-19 07-AUG-19
WG3123534-4 MS	•	WG3123534-			,0		000	07-700-19
1-Methylnaphthalene		1103123334	94.4		%		50-140	07-AUG-19
2-Methylnaphthalene	е		89.6		%		50-140	07-AUG-19
Acenaphthene			94.7		%		50-140	07-AUG-19
Acenaphthylene			94.0		%		50-140	07-AUG-19
Anthracene			93.2		%		50-140	07-AUG-19
Benzo(a)anthracene	•		92.2		%		50-140	07-AUG-19
Benzo(a)pyrene			91.2		%		50-140	07-AUG-19
Benzo(b)fluoranthen	ie		96.5		%		50-140	07-AUG-19
Benzo(g,h,i)perylene)		92.6		%		50-140	07-AUG-19
Benzo(k)fluoranthen	е		90.9		%		50-140	07-AUG-19
Chrysene			97.3		%		50-140	07-AUG-19
Dibenzo(ah)anthrace	ene		93.9		%		50-140	07-AUG-19
Fluoranthene			91.6		%		50-140	07-AUG-19
Fluorene			92.1		%		50-140	07-AUG-19
Indeno(1,2,3-cd)pyre	ene		92.0		%		50-140	07-AUG-19
Naphthalene			93.2		%		50-140	07-AUG-19
Phenanthrene			95.4		%		50-140	07-AUG-19
Pyrene			91.1		%		50-140	07-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4751191								
WG3129231-33 DUP		WG3129231-		000 114	/a	N1/A	40	
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	13-AUG-19
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	13-AUG-19
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Benzo(b)fluoranthene		0.061	0.055		ug/g	10	40	13-AUG-19
Benzo(g,h,i)perylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Benzo(k)fluoranthene		< 0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Chrysene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Dibenzo(ah)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	13-AUG-19
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	13-AUG-19
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	13-AUG-19
WG3129231-32 LCS 1-Methylnaphthalene			103.8		%		50-140	13-AUG-19
2-Methylnaphthalene			97.8		%		50-140	13-AUG-19
Acenaphthene			104.9		%		50-140	13-AUG-19
Acenaphthylene			106.3		%		50-140	13-AUG-19
Anthracene			102.0		%		50-140	13-AUG-19
Benzo(a)anthracene			103.6		%		50-140	13-AUG-19
Benzo(a)pyrene			101.9		%		50-140	13-AUG-19
Benzo(b)fluoranthene			101.2		%		50-140	13-AUG-19
Benzo(g,h,i)perylene			81.8		%		50-140	13-AUG-19
Benzo(k)fluoranthene			110.3		%		50-140	13-AUG-19
Chrysene			111.9		%		50-140	13-AUG-19
Dibenzo(ah)anthracene			83.1		%		50-140	13-AUG-19
Fluoranthene			102.5		%		50-140	13-AUG-19
Fluorene			102.5		%		50-140	13-AUG-19
					· -		00 140	10 7100-10



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4751191								
WG3129231-32 LCS								
Indeno(1,2,3-cd)pyrene			83.2		%		50-140	13-AUG-19
Naphthalene			101.3		%		50-140	13-AUG-19
Phenanthrene			105.9		%		50-140	13-AUG-19
Pyrene			102.5		%		50-140	13-AUG-19
WG3129231-31 MB 1-Methylnaphthalene			<0.030		ug/g		0.03	13-AUG-19
2-Methylnaphthalene			<0.030	•	ug/g		0.03	13-AUG-19
Acenaphthene			< 0.050		ug/g		0.05	13-AUG-19
Acenaphthylene			< 0.050		ug/g		0.05	13-AUG-19
Anthracene			< 0.050		ug/g		0.05	13-AUG-19
Benzo(a)anthracene			<0.050	AV	ug/g		0.05	13-AUG-19
Benzo(a)pyrene			<0.050		ug/g		0.05	13-AUG-19
Benzo(b)fluoranthene			<0.050		ug/g		0.05	13-AUG-19
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	13-AUG-19
Benzo(k)fluoranthene			<0.050		ug/g		0.05	13-AUG-19
Chrysene			<0.050		ug/g		0.05	13-AUG-19
Dibenzo(ah)anthracene			<0.050		ug/g		0.05	13-AUG-19
Fluoranthene			< 0.050		ug/g		0.05	13-AUG-19
Fluorene			< 0.050		ug/g		0.05	13-AUG-19
Indeno(1,2,3-cd)pyrene			< 0.050		ug/g		0.05	13-AUG-19
Naphthalene			<0.013		ug/g		0.013	13-AUG-19
Phenanthrene			<0.046		ug/g		0.046	13-AUG-19
Pyrene			< 0.050		ug/g		0.05	13-AUG-19
Surrogate: 2-Fluorobiph	enyl		99.0		%		50-140	13-AUG-19
Surrogate: p-Terphenyl	d14		83.9		%		50-140	13-AUG-19
WG3129231-34 MS		WG3129231-	35					
1-Methylnaphthalene			99.4		%		50-140	13-AUG-19
2-Methylnaphthalene			93.9		%		50-140	13-AUG-19
Acenaphthene			101.1		%		50-140	13-AUG-19
Acenaphthylene			101.9		%		50-140	13-AUG-19
Anthracene			97.3		%		50-140	13-AUG-19
Benzo(a)anthracene			99.1		%		50-140	13-AUG-19
Benzo(a)pyrene			99.98		%		50-140	13-AUG-19
Benzo(b)fluoranthene			100.3		%		50-140	13-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4751191								
WG3129231-34 MS		WG3129231-3			0.4			
Benzo(g,h,i)perylene			81.9		%		50-140	13-AUG-19
Benzo(k)fluoranthene			106.2		%		50-140	13-AUG-19
Chrysene			106.2		%		50-140	13-AUG-19
Dibenzo(ah)anthracene			81.5		%		50-140	13-AUG-19
Fluoranthene			98.9		%		50-140	13-AUG-19
Fluorene			98.7		%		50-140	13-AUG-19
Indeno(1,2,3-cd)pyrene			87.1		%		50-140	13-AUG-19
Naphthalene			96.7		%		50-140	13-AUG-19
Phenanthrene			101.8		%		50-140	13-AUG-19
Pyrene			99.2		%		50-140	13-AUG-19
SAR-R511-WT	Soil							
Batch R4743431								
WG3126453-4 DUP		WG3126453-3						
Calcium (Ca)		7.00	6.80		mg/L	2.9	30	08-AUG-19
Sodium (Na)		4.43	4.24	*	mg/L	4.4	30	08-AUG-19
Magnesium (Mg)		<0.50	<0.50	RPD-NA	mg/L	N/A	30	08-AUG-19
WG3126453-2 IRM		WT SAR3						
Calcium (Ca)			81.5		%		70-130	08-AUG-19
Sodium (Na)			90.8		%		70-130	08-AUG-19
Magnesium (Mg)			83.9		%		70-130	08-AUG-19
WG3126453-5 LCS Calcium (Ca)			107.3		%		70-130	08-AUG-19
Sodium (Na)			100.8		%		70-130	08-AUG-19
Magnesium (Mg)			102.0		%		70-130	
WG3126453-1 MB			102.0		,,		10-130	08-AUG-19
Calcium (Ca)			<0.50		mg/L		0.5	08-AUG-19
Sodium (Na)			<0.50		mg/L		0.5	08-AUG-19
Magnesium (Mg)			<0.50		mg/L		0.5	08-AUG-19
TOC-R511-WT	Soil							
Batch R4742737								
WG3125536-3 CRM Total Organic Carbon		WT-TOC-CRM	98.4		%		70-130	07-AUG-19
WG3125536-4 DUP		L2320007-1						
Total Organic Carbon		0.86	0.88		%	1.6	35	07-AUG-19
WG3125536-2 LCS								



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TOC-R511-WT	Soil							
Batch R4742737								
WG3125536-2 LCS			102.1		%		00.400	
Total Organic Carbon Total Organic Carbon			102.1		%		80-120	07-AUG-19
Total Organic Carbon			102.1		%		80-120	07-AUG-19
WG3125536-1 MB			102.1		70	>	80-120	07-AUG-19
Total Organic Carbon			<0.10		%		0.1	07-AUG-19
VOC-511-HS-WT	Soil							
Batch R4742707	00							
WG3125362-4 DUP		WG3125362-3	3	`				
1,1,1,2-Tetrachloroethar	ne	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,1,2,2-Tetrachloroethar	ne	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,2-Dichloroethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,3-Dichlorobenzene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
1,4-Dichlorobenzene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	08-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	08-AUG-19
Bromodichloromethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Bromoform		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Bromomethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Carbon tetrachloride		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Chlorobenzene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Chloroform		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
cis-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
cis-1,3-Dichloropropene		<0.030	< 0.030	RPD-NA	ug/g	N/A	40	08-AUG-19
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Dichlorodifluoromethane)	<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	08-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R474270	07							
WG3125362-4 DUF	•	WG3125362-			,			
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	08-AUG-19
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	08-AUG-19
Methyl Isobutyl Keton	е	<0.50	<0.50	RPD-NA	ug/g	N/A	40	08-AUG-19
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	08-AUG-19
Styrene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	08-AUG-19
trans-1,2-Dichloroeth	ylene	<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
trans-1,3-Dichloropro	pene	<0.030	<0.030	RPD-NA	ug/g	N/A	40	08-AUG-19
Trichloroethylene		0.019	0.018		ug/g	2.8	40	08-AUG-19
Trichlorofluoromethan	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-AUG-19
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	08-AUG-19
WG3125362-2 LC5	3							
1,1,1,2-Tetrachloroet	hane		101.5		%		60-130	07-AUG-19
1,1,2,2-Tetrachloroet	hane		104.6		%		60-130	07-AUG-19
1,1,1-Trichloroethane			88.2		%		60-130	07-AUG-19
1,1,2-Trichloroethane			99.95		%		60-130	07-AUG-19
1,1-Dichloroethane			88.1		%		60-130	07-AUG-19
1,1-Dichloroethylene			80.7		%		60-130	07-AUG-19
1,2-Dibromoethane			103.3		%		70-130	07-AUG-19
1,2-Dichlorobenzene			98.4		%		70-130	07-AUG-19
1,2-Dichloroethane			86.1		%		60-130	07-AUG-19
1,2-Dichloropropane			96.3		%		70-130	07-AUG-19
1,3-Dichlorobenzene			99.3		%		70-130	07-AUG-19
1,4-Dichlorobenzene			96.7		%		70-130	07-AUG-19
Acetone			99.7		%		60-140	07-AUG-19
Benzene			96.0		%		70-130	07-AUG-19
Bromodichlorometha	ne		89.3		%		50-140	07-AUG-19
Bromoform			107.9		%		70-130	07-AUG-19
Bromomethane			75.2		%		50-140	07-AUG-19



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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4742707								
WG3125362-2 LCS Carbon tetrachloride			92.2		%		70-130	07-AUG-19
Chlorobenzene			94.5		%		70-130	07-AUG-19
Chloroform			89.3		%		70-130	07-AUG-19
cis-1,2-Dichloroethylene			91.6		%		70-130	07-AUG-19
cis-1,3-Dichloropropene			97.2		%		70-130	07-AUG-19
Dibromochloromethane			104.0		%		60-130	07-AUG-19
Dichlorodifluoromethane			49.0	LCS-L	%		50-140	07-AUG-19
Ethylbenzene			100.1		%		70-130	07-AUG-19
n-Hexane			74.0		%		70-130	07-AUG-19
Methylene Chloride			86.3		%		70-130	07-AUG-19
MTBE			95.0	A V	%		70-130	07-AUG-19
m+p-Xylenes			96.9		%		70-130	07-AUG-19
Methyl Ethyl Ketone			106.9		%		60-140	07-AUG-19
Methyl Isobutyl Ketone			115.0		%		60-140	07-AUG-19
o-Xylene			101.2		%		70-130	07-AUG-19
Styrene		· ·	107.2		%		70-130	07-AUG-19
Tetrachloroethylene			95.0		%		60-130	07-AUG-19
Toluene			98.6		%		70-130	07-AUG-19
trans-1,2-Dichloroethylen	e		84.5		%		60-130	07-AUG-19
trans-1,3-Dichloropropen	е		105.3		%		70-130	07-AUG-19
Trichloroethylene			94.8		%		60-130	07-AUG-19
Trichlorofluoromethane			78.6		%		50-140	07-AUG-19
Vinyl chloride			85.3		%		60-140	07-AUG-19
WG3125362-1 MB								
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	07-AUG-19
1,1,2,2-Tetrachloroethane	е		<0.050		ug/g		0.05	07-AUG-19
1,1,1-Trichloroethane			<0.050		ug/g		0.05	07-AUG-19
1,1,2-Trichloroethane			<0.050		ug/g		0.05	07-AUG-19
1,1-Dichloroethane			<0.050		ug/g		0.05	07-AUG-19
1,1-Dichloroethylene			<0.050		ug/g		0.05	07-AUG-19
1,2-Dibromoethane			< 0.050		ug/g		0.05	07-AUG-19
1,2-Dichlorobenzene			<0.050		ug/g		0.05	07-AUG-19
1,2-Dichloroethane			<0.050		ug/g		0.05	07-AUG-19
1,2-Dichloropropane			<0.050		ug/g		0.05	07-AUG-19



Workorder: L2320007 Report Date: 26-SEP-19 Page 19 of 22

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test N	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4742707								
WG3125362-1 MB			0.050		/		0.05	
1,3-Dichlorobenzene 1,4-Dichlorobenzene			<0.050 <0.050		ug/g		0.05 0.05	07-AUG-19
Acetone			<0.050		ug/g		0.03	07-AUG-19
Benzene			<0.0068		ug/g ug/g		0.0068	07-AUG-19
Bromodichloromethane			<0.050		ug/g ug/g		0.000	07-AUG-19
Bromoform			<0.050		ug/g		0.05	07-AUG-19 07-AUG-19
Bromomethane			<0.050		ug/g		0.05	07-AUG-19 07-AUG-19
Carbon tetrachloride			<0.050		ug/g		0.05	07-AUG-19 07-AUG-19
Chlorobenzene			<0.050		ug/g		0.05	07-AUG-19
Chloroform			<0.050		ug/g		0.05	07-AUG-19 07-AUG-19
cis-1,2-Dichloroethylene			<0.050	AV	ug/g		0.05	07-AUG-19
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	07-AUG-19
Dibromochloromethane			<0.050		ug/g		0.05	07-AUG-19
Dichlorodifluoromethane			<0.050		ug/g		0.05	07-AUG-19
Ethylbenzene			<0.018		ug/g		0.018	07-AUG-19
n-Hexane			<0.050		ug/g		0.05	07-AUG-19
Methylene Chloride			<0.050		ug/g		0.05	07-AUG-19
MTBE			<0.050		ug/g		0.05	07-AUG-19
m+p-Xylenes			<0.030		ug/g		0.03	07-AUG-19
Methyl Ethyl Ketone			<0.50		ug/g		0.5	07-AUG-19
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	07-AUG-19
o-Xylene			<0.020		ug/g		0.02	07-AUG-19
Styrene			< 0.050		ug/g		0.05	07-AUG-19
Tetrachloroethylene			< 0.050		ug/g		0.05	07-AUG-19
Toluene			<0.080		ug/g		0.08	07-AUG-19
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	07-AUG-19
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	07-AUG-19
Trichloroethylene			<0.010		ug/g		0.01	07-AUG-19
Trichlorofluoromethane			<0.050		ug/g		0.05	07-AUG-19
Vinyl chloride			<0.020		ug/g		0.02	07-AUG-19
Surrogate: 1,4-Difluoroben	zene		101.4		%		50-140	07-AUG-19
Surrogate: 4-Bromofluorob	enzene		89.0		%		50-140	07-AUG-19
WG3125362-5 MS 1,1,1,2-Tetrachloroethane		L2321698-2	105.8		%		50-140	08-AUG-19



Workorder: L2320007 Report Date: 26-SEP-19 Page 20 of 22

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4742707	7							
WG3125362-5 MS		L2321698-2	00.0		0/			
1,1,2,2-Tetrachloroetha	ane		98.0		%		50-140	08-AUG-19
1,1,1-Trichloroethane			94.6		%		50-140	08-AUG-19
1,1,2-Trichloroethane			100.8		%		50-140	08-AUG-19
1,1-Dichloroethane			85.3		%		50-140	08-AUG-19
1,1-Dichloroethylene			86.4		%		50-140	08-AUG-19
1,2-Dibromoethane			102.6		%		50-140	08-AUG-19
1,2-Dichlorobenzene			101.7	,	%		50-140	08-AUG-19
1,2-Dichloroethane			87.4		%		50-140	08-AUG-19
1,2-Dichloropropane			99.6		%		50-140	08-AUG-19
1,3-Dichlorobenzene			101.8		%		50-140	08-AUG-19
1,4-Dichlorobenzene			101.8		%		50-140	08-AUG-19
Acetone			105.4		%		50-140	08-AUG-19
Benzene			100.0		%		50-140	08-AUG-19
Bromodichloromethane	Э		92.5		%		50-140	08-AUG-19
Bromoform			103.0	Y	%		50-140	08-AUG-19
Bromomethane		`	75.7		%		50-140	08-AUG-19
Carbon tetrachloride			99.5		%		50-140	08-AUG-19
Chlorobenzene			98.2		%		50-140	08-AUG-19
Chloroform			93.7		%		50-140	08-AUG-19
cis-1,2-Dichloroethylen	ie		94.9		%		50-140	08-AUG-19
cis-1,3-Dichloropropen	е		87.9		%		50-140	08-AUG-19
Dibromochloromethane	е		104.7		%		50-140	08-AUG-19
Dichlorodifluoromethar	ne		59.9		%		50-140	08-AUG-19
Ethylbenzene			103.7		%		50-140	08-AUG-19
n-Hexane			80.3		%		50-140	08-AUG-19
Methylene Chloride			88.1		%		50-140	08-AUG-19
MTBE			98.0		%		50-140	08-AUG-19
m+p-Xylenes			101.5		%		50-140	08-AUG-19
Methyl Ethyl Ketone			99.2		%		50-140	08-AUG-19
Methyl Isobutyl Ketone			110.6		%		50-140	08-AUG-19
o-Xylene			104.4		%		50-140	08-AUG-19
Styrene			107.5		%		50-140	08-AUG-19
Tetrachloroethylene			98.7		%		50-140	08-AUG-19
								307.00 10



Workorder: L2320007 Report Date: 26-SEP-19 Page 21 of 22

Client: CH2M HILL Canada Ltd.

245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4742707								
WG3125362-5 MS		L2321698-2						
Toluene			102.7		%		50-140	08-AUG-19
trans-1,2-Dichloroethylen	е		86.5		%		50-140	08-AUG-19
trans-1,3-Dichloropropen	е		92.1		%		50-140	08-AUG-19
Trichloroethylene			100.7		%		50-140	08-AUG-19
Trichlorofluoromethane			87.4		%		50-140	08-AUG-19
Vinyl chloride			92.1		%		50-140	08-AUG-19

Report Date: 26-SEP-19 Workorder: L2320007

CH2M HILL Canada Ltd. Client: 245 CONSUMERS ROAD SUITE 400

TORONTO ON M2J 1R3

VICTORIA PETERS

Legend:

Contact:

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

Matrix Spike Duplicate **MSD**

Average Desorption Efficiency ADE

Method Blank MB

Internal Reference Material IRM CRM Certified Reference Material Continuing Calibration Verification CCV CVS Calibration Verification Standard LCSD Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description	
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 res	ult(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 predetermined data quality objectives to provide confidence in the accuracy of associated test results.

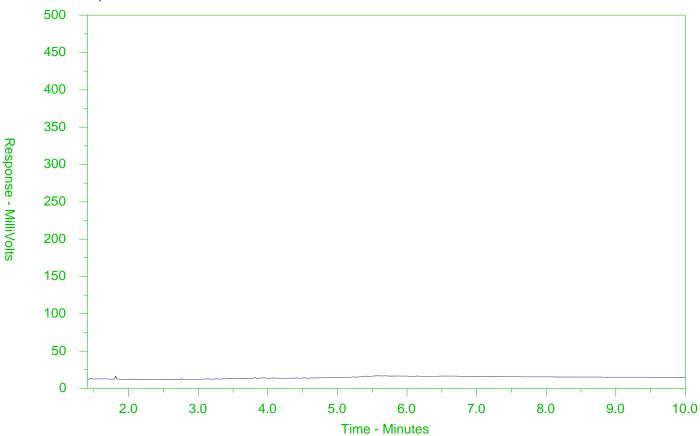
Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Page 22 of 22

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2320007-1 Client Sample ID: BH204 - 2.5-3.5'



← -F2-	→←	_F3 → F4-	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ie →	← Mo	tor 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.

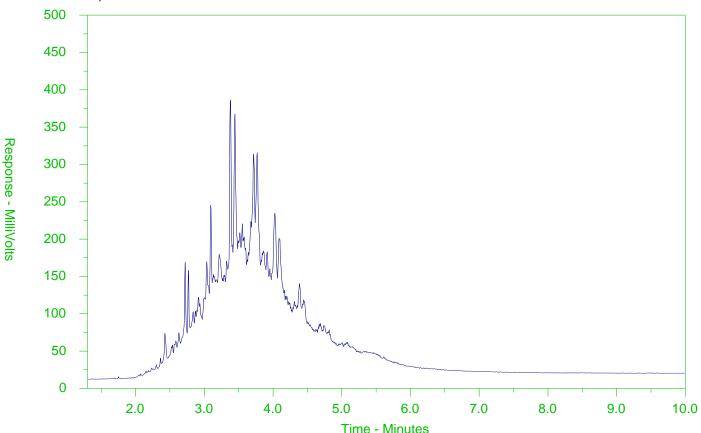
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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: L2320007-2 Client Sample ID: MW106 -0.5-1.5'



← -F2-	→ ←	—F3—→ ← F4—	>
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067⁰F
Gasolin	e →	← Mot	or Oils/Lube Oils/Grease
•	-Diesel/J	et 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.

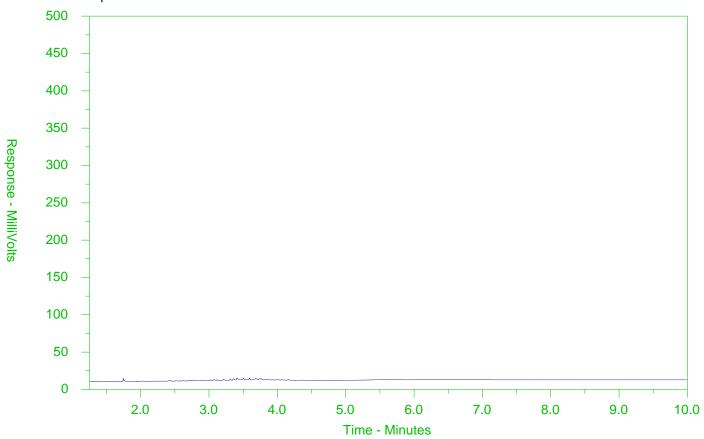
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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: L2320007-3 Client Sample ID: MW106 - 2-3'



← -F2-	→-	—F3—→←—F4—	>
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasolin	e →	← Mot	or Oils/Lube Oils/Grease-
←	-Diesel/Je	et 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.

EL SEGRECIENTIERS TREES.

Chain of Custody (COC) / Analytical Request Form

L2320007-COFC

COC Number: 17 - 20190731

Canada Toli Free: 1 800 668 9878 www.alsglobal.com

Report To	Contact and company name below will ap	pear on the final report		Report Format	l / viacrovoon		1	Selec	t Sen	rice Le	rrel Bo	dow -	Conta	ct you	r AM	to con	illerm el	E AP	TATe (surcharg	es mar	100= V	vi
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REFER TO BACK	PAGE FOR ALS LOCATIONS AND SAMPLING	3 INFORMATION		WHI	E - LABURATOR	Y COPÝ YELL	0W - 0	CLIENT	COP	Ϋ́		1		- 1	_/		<i>,,</i> ~~		<u></u>		10.	<u></u>	



CH2M HILL CANADA LIMITED ATTN: ANDREW VERMEERSCH 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 13-AUG-19

Report Date: 05-SEP-19 13:15 (MT)

Version: FINAL REV. 2

Client Phone: 519-579-3500

Certificate of Analysis

Lab Work Order #: L2328062
Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV.A2

C of C Numbers: Legal Site Desc:

Comments: ADDITIONAL 28-AUG-19 06:27

Emily Hansen Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

ALS CANADA LTD Part of the ALS Group An ALS Limited Company





L2328062 CONT'D....

Job Reference: CE751900.A.CS.EV.A2

PAGE 2 of 26

05-SEP-19 13:15 (MT)

Summary of Guideline Exceedances

Guideline						
ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit
ntario Reg	gulation 153/04 - April 15	, 2011 Standards - T1-Soil-Res/Park/Ir	nst/Ind/Com/Commu Property Use			
.2328062-2	BH200-7.5-9.5	Saturated Paste Extractables	SAR	5.12	2.4	SAR
.2328062-4	BH200-15-17	Saturated Paste Extractables	SAR	10.2	2.4	SAR
2328062-5	BH202-10-12	Physical Tests	Conductivity	1.97	0.57	mS/cm
		Saturated Paste Extractables	SAR	70.3	2.4	SAR
2328062-7	BH202-15-16.5	Physical Tests	Conductivity	1.80	0.57	mS/cm
		Saturated Paste Extractables	SAR	36.9	2.4	SAR
2328062-8	BH205-0.5-2	Saturated Paste Extractables	SAR	10.1	2.4	SAR
2328062-12	P BH205-10-12	Saturated Paste Extractables	SAR	23.3	2.4	SAR
2328062-14	BH205-12.5-15	Saturated Paste Extractables	SAR	7.18	2.4	SAR
2328062-16	DUP11	Physical Tests	Conductivity	1.86	0.57	mS/cm
		Saturated Paste Extractables	SAR	43.5	2.4	SAR
2328062-17	MW105-5-6	Saturated Paste Extractables	SAR	29.9	2.4	SAR
		Hydrocarbons	F4 (C34-C50)	250	120	ug/g
			F4G-SG (GHH-Silica)	610	120	ug/g
2328062-19	MW105-10-12	Physical Tests	Conductivity	1.27	0.57	mS/cm
		Saturated Paste Extractables	SAR	79.8	2.4	SAR
2328062-21	MW105-15-17	Physical Tests	Conductivity	0.859	0.57	mS/cm
2328062-23	3 MW105-21.5-22	Physical Tests	Conductivity	1.01	0.57	mS/cm
		Saturated Paste Extractables	SAR	23.8	2.4	SAR
2328062-24	DUP12	Physical Tests	Conductivity	0.841	0.57	mS/cm
		Saturated Paste Extractables	SAR	60.0	2.4	SAR
2328062-26	6 MW104-7-9	Physical Tests	Conductivity	1.13	0.57	mS/cm
		Saturated Paste Extractables	SAR	69.3	2.4	SAR
2328062-28	3 MW104-15-17	Physical Tests	Conductivity	1.11	0.57	mS/cm
		Saturated Paste Extractables	SAR	10.3	2.4	SAR
2328062-31	DUP13	Physical Tests	Conductivity	0.911	0.57	mS/cm
		Saturated Paste Extractables	SAR	60.2	2.4	SAR
2328062-33	3 MW104-22-23	Physical Tests	Conductivity	1.00	0.57	mS/cm
		Saturated Paste Extractables	SAR	5.77	2.4	SAR

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....
Job Reference: CE751900.A.CS.EV.A2

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Physical Tests - SOIL

riiyaicai ieala - aoil											
		Lab ID	L2328062-2	L2328062-5	L2328062-7	L2328062-8	L2328062-10	L2328062-11	L2328062-12	L2328062-15	L2328062-16
	5	Sample Date	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19
		Sample ID	BH200-7.5-9.5	BH202-10-12	BH202-15-16.5	BH205-0.5-2	BH205-2.5-4.5	BH205-7.5-9.5	BH205-10-12	DUP10	DUP11
Analyte	Unit	Guide Limits #1 #2									
Analyte Conductivity			0.373	1.97	1.80	0.445			0.530		1.86
	Unit	#1 #2		1.97 6.27	1.80	0.445 5.69	4.77	5.25	0.530 8.11	5.43	1.86 7.33

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....
Job Reference: CE751900.A.CS.EV.A2

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Physical Tests - SOIL

i ilyalcai reala - ooil											
		Lab	ID L2328062-17	L2328062-19	L2328062-21	L2328062-23	L2328062-24	L2328062-26	L2328062-28	L2328062-31	L2328062-32
	;	Sample Da	ite 13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19
		Sample	ID MW105-5-6	MW105-10-12	MW105-15-17	MW105-21.5- 22	DUP12	MW104-7-9	MW104-15-17	DUP13	TRIP BLANK 20180813
Analyte	Unit	Guide Lim #1 #2									
Conductivity	mS/cm	0.57	0.520	1.27	0.859	1.01	0.841	1.13	1.11	0.911	
% Moisture	%		3.46	7.46	9.30		8.54	8.77	8.62	7.19	<0.10
pH	pH units	-	9.46	8.26	8.08		8.09	8.04	7.87	8.04	

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

Job Reference: CE751900.A.CS.EV.A2

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Physical Tests - SOIL

i ilyaicai reala - oole				
		L	ab ID	L2328062-33
	5	Sample		13-AUG-19
		Sam	ple ID	MW104-22-23
Analyte	Unit	Guide #1	Limits #2	
Conductivity	mS/cm	0.57		1.00
Conductivity				1.00
% Moisture	%	-	-	1.00

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



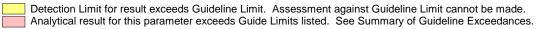
L2328062 CONT'D....
Job Reference: CE751900.A.CS.EV.A2

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Cyanides - SOIL

-,												
		Lab) ID	L2328062-2	L2328062-5	L2328062-8	L2328062-12	L2328062-16	L2328062-17	L2328062-19	L2328062-21	L2328062-24
		Sample D	ate	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19
		Sample) ID	BH200-7.5-9.5	BH202-10-12	BH205-0.5-2	BH205-10-12	DUP11	MW105-5-6	MW105-10-12	MW105-15-17	DUP12
		Guide Lir	nits									
Analyte	Unit	#1 #	2									
Cyanide, Weak Acid Diss	ug/g	0.051	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use



^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

Job Reference: CE751900.A.CS.EV.A2

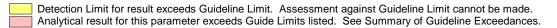
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Cyanides - SOIL

		Sample ID		
	Gı	uide Limits		
Analyte		uide Limits #1 #2		

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use



^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....
Job Reference: CE751900.A.CS.EV.A2

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Saturated Paste Extractables - SOIL

Saturated Paste Extrac	tables - SOIL											
		L	ab ID	L2328062-2	L2328062-4	L2328062-5	L2328062-7	L2328062-8	L2328062-12	L2328062-14	L2328062-16	L2328062-17
		Sample	Date	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	13-AUG-19
		Sam	ple ID	BH200-7.5-9.5	BH200-15-17	BH202-10-12	BH202-15-16.5	BH205-0.5-2	BH205-10-12	BH205-12.5-15	DUP11	MW105-5-6
Analyte	Unit	Guide #1	Limits #2									
SAR	SAR	2.4	-	5.12	10.2	70.3 SAR:M	36.9	10.1	23.3 SAR:M	7.18	43.5	29.9 SA
Calcium (Ca)	mg/L	-	-	6.47	8.55	2.10	3.34	3.58	1.38	13.4	4.04	0.75
Magnesium (Mg)	mg/L	-	-	2.06	1.84	<0.50	1.60	1.74	<0.50	11.4	0.54	<0.50
Sodium (Na)	mg/L	-	-	58.4	126	370	328	92.7	99.3	148	351	94.1

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....
Job Reference: CE751900.A.CS.EV.A2

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Saturated Paste Extractables - SOIL

		L	_ab ID	L2328062-19	L2328062-21	L2328062-23	L2328062-24	L2328062-26	L2328062-28	L2328062-31	L2328062-33
		Sample	e Date	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19
		Sam	ple ID	MW105-10-12	MW105-15-17		DUP12	MW104-7-9	MW104-15-17	DUP13	MW104-22-23
						22					
		Guide									
Analyte	Unit	#1	#2								
SAR	SAR	2.4	-	79.8 SAR:M	>40. SAR:L	23.8	60.0 SAR:M	69.3 SAR:M	10.3	60.2 SAR:M	5.77
Calcium (Ca)	mg/L	-	-	0.68	<0.50	3.16	0.66	0.73	19.4	0.74	28.1
Magnesium (Mg)	mg/L	-	-	<0.50	<0.50	0.90	<0.50	<0.50	3.97	<0.50	9.26
Sodium (Na)	mg/L	-	-	239	168	186	177	215	191	188	138

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

Job Reference: CE751900.A.CS.EV.A2

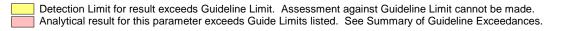
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Metals - SOIL

MELAIS - SOIL												
		Sample		L2328062-2 12-AUG-19 BH200-7.5-9.5	L2328062-5 12-AUG-19 BH202-10-12	L2328062-8 12-AUG-19 BH205-0.5-2	L2328062-12 12-AUG-19 BH205-10-12	L2328062-16 12-AUG-19 DUP11	L2328062-17 13-AUG-19 MW105-5-6	L2328062-19 13-AUG-19 MW105-10-12	L2328062-21 13-AUG-19 MW105-15-17	L2328062-24 13-AUG-19 DUP12
Analyte	Unit	Guide L #1	imits- #2									
Antimony (Sb)	ug/g	1.3	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic (As)	ug/g	18	-	1.8	<1.0	3.2	1.3	<1.0	2.1	1.7	2.2	2.3
Barium (Ba)	ug/g	220	-	9.4	9.1	37.3	8.6	8.4	11.8	16.2	42.1	45.6
Beryllium (Be)	ug/g	2.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	< 0.50
Boron (B)	ug/g	36	-	<5.0	<5.0	5.0	<5.0	<5.0	5.6	5.5	7.0	7.4
Boron (B), Hot Water Ext.	ug/g	36	-	<0.10	<0.10	0.14	<0.10	<0.10	0.12	<0.10	0.13	0.13
Cadmium (Cd)	ug/g	1.2	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chromium (Cr)	ug/g	70	-	5.6	5.2	8.8	5.1	4.9	6.1	7.5	15.4	16.1
Cobalt (Co)	ug/g	21	-	1.7	1.4	2.5	1.5	1.4	2.0	2.5	5.9	6.2
Copper (Cu)	ug/g	92	-	10.2	3.9	11.4	5.1	3.4	10.3	7.0	12.3	13.1
Lead (Pb)	ug/g	120	-	6.3	5.0	34.7	5.9	4.0	34.6	10.1	9.0	9.0
Mercury (Hg)	ug/g	0.27	-	< 0.0050	<0.0050	0.0809	<0.0050	<0.0050	0.0082	<0.0050	0.0090	0.0099
Molybdenum (Mo)	ug/g	2	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel (Ni)	ug/g	82	-	3.4	3.1	6.0	3.3	2.7	5.0	5.3	12.9	14.1
Selenium (Se)	ug/g	1.5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver (Ag)	ug/g	0.5	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium (TI)	ug/g	1	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium (U)	ug/g	2.5	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium (V)	ug/g	86	-	10.8	9.9	16.1	10.4	10.1	12.4	14.1	24.1	24.8
Zinc (Zn)	ug/g	290	-	41.9	36.9	124	51.1	32.4	216	78.2	50.7	51.9

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use



^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



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Metals - SOIL

			Lab ID	L2328062-26 13-AUG-19	L2328062-28 13-AUG-19	L2328062-31 13-AUG-19
		Sample	e Date	13-AUG-19 MW104-7-9	MW104-15-17	DUP13
		Saii	ibie in	10100 104-7-9	10100 104-15-17	DUP13
Analyte	Unit	Guide #1	Limits #2			
Antimony (Sb)	ug/g	1.3	-	<1.0	<1.0	<1.0
Arsenic (As)	ug/g	18	-	1.5	2.1	1.9
Barium (Ba)	ug/g	220	-	14.6	67.1	24.5
Beryllium (Be)	ug/g	2.5	-	<0.50	<0.50	<0.50
Boron (B)	ug/g	36	-	<5.0	7.6	5.5
Boron (B), Hot Water Ext.	ug/g	36	-	<0.10	<0.10	<0.10
Cadmium (Cd)	ug/g	1.2	-	<0.50	<0.50	<0.50
Chromium (Cr)	ug/g	70	-	8.2	18.6	9.6
Cobalt (Co)	ug/g	21	-	2.7	6.6	3.7
Copper (Cu)	ug/g	92	-	6.4	14.3	8.0
Lead (Pb)	ug/g	120	-	9.0	7.5	9.5
Mercury (Hg)	ug/g	0.27	-	0.0060	0.0110	0.0058
Molybdenum (Mo)	ug/g	2	-	<1.0	<1.0	<1.0
Nickel (Ni)	ug/g	82	-	5.3	14.8	7.9
Selenium (Se)	ug/g	1.5	-	<1.0	<1.0	<1.0
Silver (Ag)	ug/g	0.5	-	<0.20	<0.20	<0.20
Thallium (TI)	ug/g	1	-	<0.50	<0.50	<0.50
Uranium (U)	ug/g	2.5	-	<1.0	<1.0	<1.0
Vanadium (V)	ug/g	86	-	16.2	27.6	16.1
Zinc (Zn)	ug/g	290	-	41.4	64.0	64.5

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....
Job Reference: CE751900.A.CS.EV.A2

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Speciated Metals - SOIL

-p												
		La	b ID	L2328062-2	L2328062-5	L2328062-8	L2328062-12	L2328062-16	L2328062-17	L2328062-19	L2328062-21	L2328062-2
		Sample I	Date	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19
		Sampl	e ID	BH200-7.5-9.5	BH202-10-12	BH205-0.5-2	BH205-10-12	DUP11	MW105-5-6	MW105-10-12	MW105-15-17	DUP12
		Guide Li	mita									
Analyte	Unit	#1 ;	#2									
Chromium, Hexavalent	ug/g	0.66	-	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

Job Reference: CE751900.A.CS.EV.A2

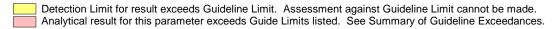
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Speciated Metals - SOIL

		Sample	_ab ID e Date ple ID	L2328062-26 13-AUG-19 MW104-7-9	L2328062-28 13-AUG-19 MW104-15-17	L2328062-31 13-AUG-19 DUP13
Analyte	Unit	Guide #1	Limits #2			
Chromium, Hexavalent	ug/g	0.66	-	<0.20	<0.20	<0.20

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use



^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

Job Reference: CE751900.A.CS.EV.A2

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Volatile Organic Compounds - SOIL

 Lab ID
 L2328062-2
 L2328062-5
 L2328062-11
 L2328062-12
 L2328062-15
 L2328062-16
 L2328062-17
 L2328062-19
 L2328062-21

 Sample Date
 12-AUG-19
 12-AUG-19
 12-AUG-19
 12-AUG-19
 12-AUG-19
 13-AUG-19
Analyte	Unit	Guide #1	Limits #2									
Acetone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	ug/g	0.02	-	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Bromodichloromethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	< 0.050	< 0.050	<0.050	<0.050
Bromoform	ug/g	0.05	-	<0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	< 0.050	< 0.050	<0.050	<0.050
Carbon tetrachloride	ug/g	0.05	-	<0.050	< 0.050	<0.050	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
Chlorobenzene	ug/g	0.05	-	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	<0.050	<0.050
Dibromochloromethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
Chloroform	ug/g	0.05	-	<0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	<0.050	<0.050
1,2-Dibromoethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
1,2-Dichlorobenzene	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
1,3-Dichlorobenzene	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
1,4-Dichlorobenzene	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	< 0.050	<0.050	< 0.050	<0.050	<0.050
Dichlorodifluoromethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
1,1-Dichloroethane	ug/g	0.05	-	<0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050
1,2-Dichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050
1,1-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050
cis-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050
trans-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050
Methylene Chloride	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050
1,2-Dichloropropane	ug/g	0.05	-	<0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050
cis-1,3-Dichloropropene	ug/g	-	-	<0.030	<0.030	< 0.030	< 0.030	<0.030	< 0.030	< 0.030	<0.030	< 0.030
trans-1,3-Dichloropropene	ug/g	-	-	< 0.030	<0.030	< 0.030	< 0.030	<0.030	< 0.030	< 0.030	< 0.030	<0.030
1,3-Dichloropropene (cis & trans)	ug/g	0.05	-	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Ethylbenzene	ug/g	0.05	-	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
n-Hexane	ug/g	0.05	-	< 0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MTBE	ug/g	0.05	-	< 0.050	<0.050	<0.050	<0.050	< 0.050	< 0.050	<0.050	<0.050	<0.050
Styrene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D.... Job Reference: CE751900.A.CS.EV.A2 PAGE 15 of 26

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		Sample	_ab ID e Date ple ID	L2328062-24 13-AUG-19 DUP12	L2328062-26 13-AUG-19 MW104-7-9	L2328062-28 13-AUG-19 MW104-15-17	L2328062-32 13-AUG-19 TRIP BLANK - 20180813
Analyte	Unit	Guide #1	Limits #2				
Acetone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50
Benzene	ug/g	0.02	-	<0.0068	<0.0068	<0.0068	<0.0068
Bromodichloromethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050
Bromoform	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
Bromomethane	ug/g	0.05	-	< 0.050	< 0.050	< 0.050	<0.050
Carbon tetrachloride	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050
Chlorobenzene	ug/g	0.05	-	< 0.050	< 0.050	< 0.050	<0.050
Dibromochloromethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050
Chloroform	ug/g	0.05	-	< 0.050	< 0.050	< 0.050	< 0.050
1,2-Dibromoethane	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050
1,2-Dichlorobenzene	ug/g	0.05	-	< 0.050	< 0.050	< 0.050	< 0.050
1,3-Dichlorobenzene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
1,4-Dichlorobenzene	ug/g	0.05	-	<0.050	< 0.050	< 0.050	<0.050
Dichlorodifluoromethane	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050
1,1-Dichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
1,2-Dichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
cis-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
trans-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
Methylene Chloride	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
1,2-Dichloropropane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
cis-1,3-Dichloropropene	ug/g	-	-	<0.030	<0.030	<0.030	<0.030
trans-1,3-Dichloropropene	ug/g	-	-	<0.030	< 0.030	< 0.030	< 0.030
1,3-Dichloropropene (cis & trans)	ug/g	0.05	-	<0.042	<0.042	<0.042	<0.042
Ethylbenzene	ug/g	0.05	-	<0.018	<0.018	<0.018	<0.018
n-Hexane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50
MTBE	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
Ohamana		0.05					

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Styrene

ug/g

0.05

< 0.050

< 0.050

< 0.050

<0.050

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

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Volatile Organic Compounds - SOIL

volatile Organic Compounds	5 - 30IL											
		L	ab ID	L2328062-2	L2328062-5	L2328062-11	L2328062-12	L2328062-15	L2328062-16	L2328062-17	L2328062-19	L2328062-21
		Sample	Date	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19
		Sam	ole ID	BH200-7.5-9.5	BH202-10-12	BH205-7.5-9.5	BH205-10-12	DUP10	DUP11	MW105-5-6	MW105-10-12	MW105-15-17
		0 ! ! .										
		Guide I										
Analyte	Unit	#1	#2									
1,1,1,2-Tetrachloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050
Tetrachloroethylene	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	< 0.050	< 0.050
Toluene	ug/g	0.2	-	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1,1-Trichloroethane	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050	<0.050	<0.050	< 0.050	< 0.050	< 0.050
1,1,2-Trichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050
Trichloroethylene	ug/g	0.05	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	ug/g	0.25	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050
Vinyl chloride	ug/g	0.02	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
m+p-Xylenes	ug/g	-	-	<0.030	< 0.030	<0.030	<0.030	<0.030	< 0.030	< 0.030	< 0.030	< 0.030
Xylenes (Total)	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Surrogate: 4-Bromofluorobenzene	%	-	-	80.3	80.3	82.0	74.3	82.9	86.0	96.9	77.6	80.3
Surrogate: 1,4-Difluorobenzene	%	-	-	109.8	108.8	111.5	100.7	112.0	118.0	113.1	105.2	108.1

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

Job Reference: CE751900.A.CS.EV.A2

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Volatile Organic Compounds - SOIL

Volatile Organic Compound	13 - OOIL						
		I	_ab ID	L2328062-24	L2328062-26	L2328062-28	L2328062-32
		Sample	e Date	13-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19
		Sam	ple ID	DUP12	MW104-7-9	MW104-15-17	TRIP BLANK 20180813
Analyte	Unit	Guide #1	Limits #2				
1,1,1,2-Tetrachloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	ug/g	0.05	-	< 0.050	< 0.050	<0.050	<0.050
Toluene	ug/g	0.2	-	<0.080	<0.080	<0.080	<0.080
1,1,1-Trichloroethane	ug/g	0.05	-	< 0.050	< 0.050	<0.050	<0.050
1,1,2-Trichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	< 0.050
Trichloroethylene	ug/g	0.05	-	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	ug/g	0.25	-	<0.050	< 0.050	<0.050	<0.050
Vinyl chloride	ug/g	0.02	-	<0.020	<0.020	<0.020	<0.020
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020
m+p-Xylenes	ug/g	-	-	<0.030	< 0.030	<0.030	< 0.030
Xylenes (Total)	ug/g	0.05	-	<0.050	<0.050	< 0.050	<0.050
Surrogate: 4-Bromofluorobenzene	%	-	-	75.4	82.8	81.6	97.4
Surrogate: 1,4-Difluorobenzene	%	-	-	101.5	111.5	110.0	110.7

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



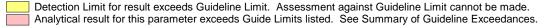
L2328062 CONT'D....
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Hydrocarbons - SOIL

Hydrocarbons - SOIL												
		I	Lab ID	L2328062-2	L2328062-5	L2328062-11	L2328062-12	L2328062-15	L2328062-16	L2328062-17	L2328062-19	L2328062-21
		Sample	e Date	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	12-AUG-19	13-AUG-19	13-AUG-19	13-AUG-19
		Sam	ple ID	BH200-7.5-9.5	BH202-10-12	BH205-7.5-9.5	BH205-10-12	DUP10	DUP11	MW105-5-6	MW105-10-12	MW105-15-17
Analyte	Unit	Guide #1	Limits #2									
F1 (C6-C10)	ug/g	25	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	ug/g	25	-	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	ug/g	10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2-Naphth	ug/g	-	-	<10	<10		<10		<10	<10	<10	<10
F3 (C16-C34)	ug/g	240	-	<50	<50	<50	<50	<50	<50	124	<50	<50
F3-PAH	ug/g	-	-	<50	<50		<50		<50	123	<50	<50
F4 (C34-C50)	ug/g	120	-	<50	<50	<50	<50	<50	<50	250	<50	<50
F4G-SG (GHH-Silica)	ug/g	120	-							610		
Total Hydrocarbons (C6-C50)	ug/g	-	-	<72	<72	<72	<72	<72	<72	374	<72	<72
Chrom. to baseline at nC50		-	-	YES	YES	YES	YES	YES	YES	NO	YES	YES
Surrogate: 2-Bromobenzotrifluoride	%	-	-	86.8	90.5	85.1	86.0	79.6	85.1	86.1	86.0	82.5
Surrogate: 3,4-Dichlorotoluene	%	-	-	89.5	90.9	91.0	91.6	93.1	92.0	86.0	93.5	93.8

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use



^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

Job Reference: CE751900.A.CS.EV.A2

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Hvdrocarbons - SOIL

			Lab ID	L2328062-24	L2328062-26	L2328062-28
		Sample	e Date	13-AUG-19	13-AUG-19	13-AUG-19
		Sam	ple ID	DUP12	MW104-7-9	MW104-15-17
Analyte	Unit	Guide #1	Limits #2			
F1 (C6-C10)	ug/g	25	-	<5.0	<5.0	<5.0
F1-BTEX	ug/g	25	-	<5.0	<5.0	<5.0
F2 (C10-C16)	ug/g	10	-	<10	<10	<10
F2-Naphth	ug/g	-	-	<10	<10	<10
F3 (C16-C34)	ug/g	240	-	<50	<50	<50
F3-PAH	ug/g	-	-	<50	<50	<50
F4 (C34-C50)	ug/g	120	-	<50	<50	<50
F4G-SG (GHH-Silica)	ug/g	120	-			
Total Hydrocarbons (C6-C50)	ug/g	-	-	<72	<72	<72
Chrom. to baseline at nC50		-	-	YES	YES	YES
Surrogate: 2-Bromobenzotrifluoride	%	-	-	87.4	82.9	86.4
Surrogate: 3,4-Dichlorotoluene	%	-	-	90.0	95.7	97.1

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

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Polycyclic Aromatic Hydrocarbons - SOIL

L2328062-5 L2328062-10 L2328062-12 L2328062-16 L2328062-17 L2328062-19 **Lab ID** L2328062-2 L2328062-21 L2328062-24 Sample Date 12-AUG-19 12-AUG-19 12-AUG-19 12-AUG-19 13-AUG-19 13-AUG-19 13-AUG-19 13-AUG-19 12-AUG-19 **Sample ID** BH200-7.5-9.5 BH202-10-12 BH205-2.5-4.5 BH205-10-12 DUP11 DUP12 MW105-5-6 MW105-10-12 MW105-15-17

Analyte	Unit	Guide #1	Limits #2									
Acenaphthene	ug/g	0.072	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	ug/g	0.093	-	<0.050	<0.050	<0.050	<0.050	<0.050	0.054	<0.050	<0.050	<0.050
Anthracene	ug/g	0.16	-	< 0.050	< 0.050	< 0.050	<0.050	<0.050	< 0.050	< 0.050	<0.050	< 0.050
Benzo(a)anthracene	ug/g	0.36	-	<0.050	<0.050	0.098	<0.050	<0.050	0.086 ^R	<0.050	<0.050	< 0.050
Benzo(a)pyrene	ug/g	0.3	-	< 0.050	< 0.050	0.134	<0.050	<0.050	0.143	< 0.050	<0.050	< 0.050
Benzo(b)fluoranthene	ug/g	0.47	-	<0.050	<0.050	0.178	<0.050	<0.050	0.167	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	ug/g	0.68	-	<0.050	<0.050	0.208	<0.050	<0.050	0.162	< 0.050	<0.050	<0.050
Benzo(k)fluoranthene	ug/g	0.48	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
Chrysene	ug/g	2.8	-	<0.050	<0.050	0.145	<0.050	<0.050	0.090	< 0.050	<0.050	<0.050
Dibenzo(ah)anthracene	ug/g	0.1	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
Fluoranthene	ug/g	0.56	-	<0.050	<0.050	0.133	<0.050	<0.050	0.125	< 0.050	<0.050	<0.050
Fluorene	ug/g	0.12	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	< 0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	ug/g	0.23	-	< 0.050	< 0.050	0.111	< 0.050	<0.050	0.133	< 0.050	< 0.050	< 0.050
1+2-Methylnaphthalenes	ug/g	0.59	-	<0.042	<0.042	<0.085	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
1-Methylnaphthalene	ug/g	0.59	-	< 0.030	<0.030	< 0.060 DLM	<0.030	<0.030	< 0.030	< 0.030	<0.030	< 0.030
2-Methylnaphthalene	ug/g	0.59	-	< 0.030	<0.030	< 0.060 DLM	<0.030	<0.030	< 0.030	< 0.030	<0.030	< 0.030
Naphthalene	ug/g	0.09	-	<0.013	<0.013	< 0.065 DLM	<0.013	<0.013	< 0.013	<0.013	<0.013	<0.013
Phenanthrene	ug/g	0.69	-	<0.046	<0.046	0.123	<0.046	<0.046	0.063	<0.046	<0.046	<0.046
Pyrene	ug/g	1	-	<0.050	<0.050	0.134	<0.050	<0.050	0.118	<0.050	<0.050	<0.050
Surrogate: 2-Fluorobiphenyl	%	-	-	95.7	96.0	98.0	94.6	93.0	97.1	95.2	101.8	100.4
Surrogate: p-Terphenyl d14	%	-	-	90.9	90.7	89.9	90.8	89.0	93.6	91.0	90.9	90.8

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



L2328062 CONT'D....

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Polycyclic Aromatic Hydrocarbons - SOIL

 Lab ID
 L2328062-26
 L2328062-28
 L2328062-31

 Sample Date
 13-AUG-19
 13-AUG-19
 13-AUG-19

 Sample ID
 MW104-7-9
 MW104-15-17
 DUP13

Analyte	Unit	Guide I #1	Limits #2			
Acenaphthene	ug/g	0.072	-	<0.050	<0.050	<0.050
Acenaphthylene	ug/g	0.093	-	<0.050	<0.050	<0.050
Anthracene	ug/g	0.16	-	<0.050	< 0.050	<0.050
Benzo(a)anthracene	ug/g	0.36	-	<0.050	< 0.050	<0.050
Benzo(a)pyrene	ug/g	0.3	-	<0.050	< 0.050	<0.050
Benzo(b)fluoranthene	ug/g	0.47	-	<0.050	< 0.050	<0.050
Benzo(g,h,i)perylene	ug/g	0.68	-	<0.050	< 0.050	<0.050
Benzo(k)fluoranthene	ug/g	0.48	-	<0.050	< 0.050	<0.050
Chrysene	ug/g	2.8	-	<0.050	< 0.050	<0.050
Dibenzo(ah)anthracene	ug/g	0.1	-	<0.050	<0.050	<0.050
Fluoranthene	ug/g	0.56	-	<0.050	< 0.050	<0.050
Fluorene	ug/g	0.12	-	<0.050	< 0.050	<0.050
Indeno(1,2,3-cd)pyrene	ug/g	0.23	-	<0.050	< 0.050	<0.050
1+2-Methylnaphthalenes	ug/g	0.59	-	<0.042	< 0.042	<0.042
1-Methylnaphthalene	ug/g	0.59	-	<0.030	<0.030	<0.030
2-Methylnaphthalene	ug/g	0.59	-	<0.030	< 0.030	<0.030
Naphthalene	ug/g	0.09	-	<0.013	<0.013	<0.013
Phenanthrene	ug/g	0.69	-	<0.046	<0.046	<0.046
Pyrene	ug/g	1	-	<0.050	<0.050	<0.050
Surrogate: 2-Fluorobiphenyl	%	-	-	101.7	102.2	100.1
Surrogate: p-Terphenyl d14	%	-	-	90.9	92.9	88.9

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.



Surrogate: Nitrobenzene d5

Surrogate: p-Terphenyl d14

Surrogate: 2,4,6-Tribromophenol

Surrogate: Phenol d5

ANALYTICAL REPORT

L2328062 CONT'D....

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Semi-Volatile Organics - SOIL

		Sample	ab ID Date ple ID	L2328062-26 13-AUG-19 MW104-7-9	L2328062-28 13-AUG-19 MW104-15-17	L2328062-31 13-AUG-19 DUP13
Analyte	Unit	Guide l #1	Limits #2			
Biphenyl	ug/g	0.05	-	<0.050	<0.050	<0.050
4-Chloroaniline	ug/g	0.5	-	<0.10	<0.10	<0.10
Bis(2-chloroethyl)ether	ug/g	0.5	-	<0.10	<0.10	<0.10
Bis(2-chloroisopropyl)ether	ug/g	0.5	-	<0.10	<0.10	<0.10
3,3'-Dichlorobenzidine	ug/g	1	-	<0.10	<0.10	<0.10
Diethylphthalate	ug/g	0.5	-	<0.10	<0.10	<0.10
Dimethylphthalate	ug/g	0.5	-	<0.10	<0.10	<0.10
2,4-Dimethylphenol	ug/g	0.2	-	<0.10	<0.10	<0.10
2,4-Dinitrophenol	ug/g	2	-	<1.0	<1.0	<1.0
2,4-Dinitrotoluene	ug/g	-	-	<0.10	<0.10	<0.10
2,6-Dinitrotoluene	ug/g	-	-	<0.10	<0.10	<0.10
2,4+2,6-Dinitrotoluene	ug/g	0.5	-	<0.14	<0.14	<0.14
Bis(2-ethylhexyl)phthalate	ug/g	5	-	<0.10	<0.10	<0.10
Phenol	ug/g	0.5	-	<0.10	<0.10	<0.10
1,2,4-Trichlorobenzene	ug/g	0.05	-	<0.050	<0.050	<0.050
Surrogate: 2-Fluorobiphenyl	%	-	-	100.9	92.0	92.6

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

%

85.0

100.6

104.5

90.2

75.2

91.7

103.4

82.6

87.0

91.0

100.4

84.6

^{*} Please refer to the Reference Information section for an explanation of any qualifiers noted.

L2328062 CONT'D....
Job Reference: CE751900.A.CS.EV.A2
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Qualifiers for Individual Parameters Listed:

Qualifier	Description
R	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
SAR:M	Reported SAR represents a maximum value. Actual SAR may be lower if both Ca and Mg were detectable.
SAR:L	SAR is incalculable due to Ca and Mg below DL (with Na above DL). Lowest possible SAR is reported as minimum value.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
625-511-WT	Soil	ABN-O.Reg 153/04 (July 2011)	SW846 8270 (511)

Soil and sediment samples are dried by mixing with a desiccant prior to extraction. The extracts are dried, concentrated and exchanged into a solvent and analyzed by GC/MS. Depending on the analytical GC/MS column used benzo(j)fluoranthene may chromatographically co-elute with benzo(b)fluoranthene or benzo(k)fluoranthene.

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).

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).

CN-WAD-R511-WT Soil Cyanide (WAD)-O.Reg 153/04 (July 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).

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).

DINITROTOL-CALC-WT Soil ABN-Calculated Parameters SW846 8270

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 CCME CWS-PHC, Pub #1310, Dec 2001-S Parameters

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.

Methods Listed (if applicable):

ALS Test Code Matrix Test Description Method Reference**

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), 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.Rea 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-sq 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-sq: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
- 6. Where both F4 (C34-C50) and F4G-sq are reported for a sample, the larger of the two values is used for comparison against the relevant CCME guideline for F4.
- 7. F4G-sq 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), 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).

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.

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Methods Listed (if applicable):

ALS Test Code Matrix Test Description Method Reference**

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 200.2/6020A (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 technique 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(i)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), 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).

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).

 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), 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.

L2328062 CONT'D....
Job Reference: CE751900.A.CS.EV.A2
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Methods Listed (if applicab	Methods Listed (if applicable):									
ALS Test Code	Matrix	Test Description	Method Reference**							
**ALS test methods may incor	porate modi	fications from specified refere	ence methods to improve performance.							
Chain of Custody Numbers:										
Chair of Custody Numbers.										
The last two letters of the ab	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	Laborat	ory Location								
WT	ALS EN	VIRONMENTAL - WATERLO	OO, 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.



Workorder: L2328062 Report Date: 05-SEP-19 Page 1 of 44

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: ANDREW VERMEERSCH

est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
25-511-WT	Soil							
Batch R4762122								
WG3136344-3 DUP 1,2,4-Trichlorobenzene		WG3136344-		DDD MA	ua/a	N 1/A	40	00 4110 40
2,4-Dimethylphenol		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-AUG-19
		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
2,4-Dinitrophenol		<1.0	<1.0	RPD-NA	ug/g	N/A	40	22-AUG-19
2,4-Dinitrotoluene		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
2,6-Dinitrotoluene		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
3,3'-Dichlorobenzidine		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
4-Chloroaniline		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
Biphenyl		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	22-AUG-19
Bis(2-chloroethyl)ether		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
Bis(2-chloroisopropyl)et	her	<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
Bis(2-ethylhexyl)phthala	te	<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
Diethylphthalate		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
Dimethylphthalate		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
Phenol		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
WG3136344-2 LCS 1,2,4-Trichlorobenzene			82.9		%		50-140	21-AUG-19
2,4-Dimethylphenol			96.1		%		30-130	21-AUG-19
2,4-Dinitrophenol			118.5		%		30-130	21-AUG-19
2,4-Dinitrotoluene			121.9		%		50-140	21-AUG-19
2,6-Dinitrotoluene			112.4		%		50-140	21-AUG-19
3,3'-Dichlorobenzidine			84.5		%		30-130	21-AUG-19
4-Chloroaniline			84.1		%		30-130	21-AUG-19
Biphenyl			93.8		%		50-140	21-AUG-19
Bis(2-chloroethyl)ether			95.7		%		50-140	21-AUG-19
Bis(2-chloroisopropyl)et	her		92.6		%		50-140	21-AUG-19
Bis(2-ethylhexyl)phthala			103.7		%		50-140	21-AUG-19
Diethylphthalate			99.1		%		50-140	21-AUG-19 21-AUG-19
Dimethylphthalate			97.6		%		50-140	21-AUG-19
Phenol			99.2		%		30-130	21-AUG-19
WG3136344-1 MB								
1,2,4-Trichlorobenzene			<0.050		ug/g		0.05	21-AUG-19
2,4-Dimethylphenol 2,4-Dinitrophenol			<0.10		ug/g		0.1	21-AUG-19
			<1.0		ug/g		1	21-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: ANDREW VERMEERSCH

Test Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
625-511-WT Soil							
Batch R4762122							
WG3136344-1 MB 2,4-Dinitrotoluene		-0.10		ua/a		0.1	04 4110 40
		<0.10		ug/g			21-AUG-19
2,6-Dinitrotoluene		<0.10		ug/g		0.1	21-AUG-19
3,3'-Dichlorobenzidine		<0.10		ug/g		0.1	21-AUG-19
4-Chloroaniline		<0.10		ug/g		0.1	21-AUG-19
Biphenyl		<0.050		ug/g		0.05	21-AUG-19
Bis(2-chloroethyl)ether		<0.10		ug/g ,		0.1	21-AUG-19
Bis(2-chloroisopropyl)ether		<0.10		ug/g		0.1	21-AUG-19
Bis(2-ethylhexyl)phthalate		<0.10		ug/g		0.1	21-AUG-19
Diethylphthalate		<0.10		ug/g		0.1	21-AUG-19
Dimethylphthalate		<0.10		ug/g		0.1	21-AUG-19
Phenol		<0.10		ug/g		0.1	21-AUG-19
Surrogate: 2-Fluorobiphenyl		78.1		%		50-140	21-AUG-19
Surrogate: 2,4,6-Tribromophenol		80.7		%		50-140	21-AUG-19
Surrogate: Nitrobenzene d5		101.4		%		50-140	21-AUG-19
Surrogate: p-Terphenyl d14		115.4		%		50-140	21-AUG-19
Surrogate: Phenol d5		96.0		%		30-130	21-AUG-19
WG3136344-4 MS	WG3136344-5						
1,2,4-Trichlorobenzene		94.1		%		50-140	22-AUG-19
2,4-Dimethylphenol		106.8		%		30-150	22-AUG-19
2,4-Dinitrophenol		88.7		%		30-150	22-AUG-19
2,4-Dinitrotoluene		108.0		%		50-140	22-AUG-19
2,6-Dinitrotoluene		96.9		%		50-140	22-AUG-19
3,3'-Dichlorobenzidine		98.7		%		30-130	22-AUG-19
4-Chloroaniline		92.8		%		30-130	22-AUG-19
Biphenyl		100.4		%		50-140	22-AUG-19
Bis(2-chloroethyl)ether		95.5		%		50-140	22-AUG-19
Bis(2-chloroisopropyl)ether		96.4		%		50-140	22-AUG-19
Bis(2-ethylhexyl)phthalate		116.9		%		50-140	22-AUG-19
Diethylphthalate		105.2		%		50-140	22-AUG-19
Dimethylphthalate		101.5		%		50-140	22-AUG-19
Phenol		101.8		%		30-130	22-AUG-19

B-HWS-R511-WT Soil



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test N	Matrix Refere	ence Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	Soil						
Batch R4765073 WG3139701-4 DUP Boron (B), Hot Water Ext.	L232 6 0.13	3062-24 0.13		ug/g	1.1	30	22-AUG-19
WG3139701-2 IRM Boron (B), Hot Water Ext.	WT S	AR3 92.1		%		70-130	22-AUG-19
WG3139701-3 LCS Boron (B), Hot Water Ext.		93.8		%		70-130	22-AUG-19
WG3139701-1 MB Boron (B), Hot Water Ext.		<0.10		ug/g		0.1	22-AUG-19
CN-WAD-R511-WT	Soil						
Batch R4759035							
WG3134892-3 DUP Cyanide, Weak Acid Diss	L232 6	3062-2 50 <0.050	RPD-NA	ug/g	N/A	35	19-AUG-19
WG3134892-2 LCS Cyanide, Weak Acid Diss		98.3		%		80-120	19-AUG-19
WG3134892-1 MB Cyanide, Weak Acid Diss		<0.050		ug/g		0.05	19-AUG-19
WG3134892-4 MS Cyanide, Weak Acid Diss	L232	3062-2 101.4		%		70-130	19-AUG-19
Batch R4762294							
WG3136416-3 DUP Cyanide, Weak Acid Diss	L232 6	8062-5 60 <0.050	RPD-NA	ug/g	N/A	35	20-AUG-19
WG3136416-2 LCS Cyanide, Weak Acid Diss		95.5		%		80-120	20-AUG-19
WG3136416-1 MB Cyanide, Weak Acid Diss		<0.050		ug/g		0.05	20-AUG-19
WG3136416-4 MS Cyanide, Weak Acid Diss	L232	8062-5 103.7		%		70-130	20-AUG-19
CR-CR6-IC-WT	Soil						
Batch R4759899							
WG3135364-4 CRM Chromium, Hexavalent	WT-S	QC012 98.5		%		70-130	20-AUG-19
WG3135364-3 DUP Chromium, Hexavalent	L232 6 <0.20	3105-6 <0.20	RPD-NA	ug/g	N/A	35	20-AUG-19
WG3135364-2 LCS Chromium, Hexavalent		89.2		%		80-120	20-AUG-19
WG3135364-1 MB Chromium, Hexavalent		<0.20		ug/g		0.2	20-AUG-19



Workorder: L2328062 Report Date: 05-SEP-19 Page 4 of 44

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CR-CR6-IC-WT Batch R475991								
WG3136179-4 CRN Chromium, Hexavaler		WT-SQC012	94.5		%		70-130	20-AUG-19
WG3136179-3 DUF Chromium, Hexavaler		L2329068-3 <0.20	<0.20	RPD-NA	ug/g	N/A	35	20-AUG-19
WG3136179-2 LCS Chromium, Hexavaler			87.6		%		80-120	20-AUG-19
WG3136179-1 MB Chromium, Hexavaler	nt		<0.20		ug/g		0.2	20-AUG-19
EC-WT	Soil							
Batch R476432	20							
WG3139781-4 DUF Conductivity	•	WG3139781-3 0.384	0.383		mS/cm	0.3	20	22-AUG-19
WG3139781-2 IRM Conductivity		WT SAR3	95.5		%		70-130	22-AUG-19
WG3140016-1 LCS Conductivity	3		97.4		%		90-110	22-AUG-19
WG3139781-1 MB Conductivity			<0.0040		mS/cm		0.004	22-AUG-19
Batch R476432	25							
WG3139782-4 DUF Conductivity		WG3139782-3 1.11	1.11		mS/cm	0.7	20	22-AUG-19
WG3139782-2 IRM Conductivity		WT SAR3	95.1		%		70-130	22-AUG-19
WG3140018-1 LCS Conductivity	•		97.2		%		90-110	22-AUG-19
WG3139782-1 MB Conductivity			<0.0040		mS/cm		0.004	22-AUG-19
Datah D476754	14							
Batch R476754 WG3140439-4 DUF Conductivity		WG3140439-3 0.201	0.203		mS/cm	1.0	20	23-AUG-19
WG3140439-2 IRM Conductivity		WT SAR3	98.6		%		70-130	23-AUG-19
WG3141386-1 LCS Conductivity	;		101.0		%		90-110	23-AUG-19
WG3140439-1 MB Conductivity			<0.0040		mS/cm		0.004	23-AUG-19



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KITCHENER ON N2G 4Y9

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-WT		Soil							
Batch R4	782690								
WG3150996-4 Conductivity	DUP		WG3150996-3 0.167	0.175		mS/cm	4.7	20	04-SEP-19
WG3150996-2 Conductivity	IRM		WT SAR3	88.8		%		70-130	04-SEP-19
WG3151264-1 Conductivity	LCS			99.4		%		90-110	04-SEP-19
WG3150996-1 Conductivity	MB			<0.0040		mS/cm		0.004	04-SEP-19
Batch R4	783616								
WG3151001-4 Conductivity	DUP		L2328158-6 0.795	0.782		mS/cm	1.6	20	05-SEP-19
WG3151001-2 Conductivity	IRM		WT SAR3	98.1		%		70-130	05-SEP-19
WG3151266-1 Conductivity	LCS			97.7		%		90-110	05-SEP-19
WG3151001-1 Conductivity	MB			<0.0040		mS/cm		0.004	05-SEP-19
F1-HS-511-WT		Soil							
Batch R4	759541								
WG3136345-4 F1 (C6-C10)	DUP		WG3136345-3 <5.0	<5.0	RPD-NA	ug/g	N/A	30	20-AUG-19
WG3136345-2 F1 (C6-C10)	LCS			110.0		%		80-120	20-AUG-19
WG3136345-1 F1 (C6-C10)	MB			<5.0		ug/g		5	20-AUG-19
Surrogate: 3,4-I	Dichloroto	oluene		96.4		%		60-140	20-AUG-19
WG3136345-6 F1 (C6-C10)	MS		L2328062-2	99.5		%		60-140	20-AUG-19
Batch R4	759545								
WG3136405-4 F1 (C6-C10)	DUP		WG3136405-3 <5.0	<5.0	RPD-NA	ug/g	N/A	30	20-AUG-19
WG3136405-2 F1 (C6-C10)	LCS			107.9		%		80-120	20-AUG-19
WG3136405-1 F1 (C6-C10)	MB			<5.0		ug/g		5	20-AUG-19
Surrogate: 3,4-I	Dichloroto	oluene		92.6		%		60-140	20-AUG-19
WG3136405-6 F1 (C6-C10)	MS		L2328062-15	102.2				60-140	



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	Soil							
Batch R4	1759545							
WG3136405-6 F1 (C6-C10)	MS	L2328062-15	102.2		%		60-140	20-AUG-19
Batch R4	1759637							
WG3136428-4 F1 (C6-C10)	DUP	WG3136428-3 <5.0	<5.0	RPD-NA	ug/g	N/A	30	20-AUG-19
WG3136428-2 F1 (C6-C10)	LCS		109.5		%		80-120	20-AUG-19
WG3136428-1	MB				,		_	
F1 (C6-C10)	D: 11		<5.0		ug/g		5	20-AUG-19
Surrogate: 3,4-			91.5		%		60-140	20-AUG-19
WG3136428-6 F1 (C6-C10)	MS	L2329656-1	104.1		%		60-140	20-AUG-19
Batch R4	1761934							
WG3136529-4 F1 (C6-C10)	DUP	WG3136529-3 <5.0	<5.0	RPD-NA	ug/g	N/A	30	21-AUG-19
WG3136529-2 F1 (C6-C10)	LCS		113.7		%		80-120	21-AUG-19
WG3136529-1	МВ							
F1 (C6-C10)			<5.0		ug/g		5	21-AUG-19
Surrogate: 3,4-	Dichlorotoluene		94.1		%		60-140	21-AUG-19
WG3136529-6 F1 (C6-C10)	MS	L2328062-21	107.3		%		60-140	21-AUG-19
F2-F4-511-WT	Soil							
Batch R4	1757418							
WG3132600-6	DUP	WG3132600-8	-10	DDD NA	ua/a	N 1/A	00	45 440 40
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	15-AUG-19
F3 (C16-C34) F4 (C34-C50)		<50 <50	<50 <50	RPD-NA	ug/g	N/A	30	15-AUG-19
,	1.00	<00	<50	RPD-NA	ug/g	N/A	30	15-AUG-19
WG3132600-5 F2 (C10-C16)	LC9		98.0		%		80-120	15-AUG-19
F3 (C16-C34)			93.4		%		80-120	15-AUG-19
F4 (C34-C50)			102.6		%		80-120	15-AUG-19
WG3132600-4 F2 (C10-C16)	МВ		<10		ug/g		10	15-AUG-19
F3 (C16-C34)			<50		ug/g		50	15-AUG-19
F4 (C34-C50)			<50		ug/g		50	15-AUG-19



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72 VICTORIA ST S, SUITE 300

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Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT		Soil							
Batch R4	4757418								
WG3132600-4 Surrogate: 2-Bi	MB romobenz	otrifluoride		84.5		%		60-140	15-AUG-19
WG3132600-7	MS		WG3132600-8						
F2 (C10-C16)				99.5		%		60-140	15-AUG-19
F3 (C16-C34)				95.1		%		60-140	15-AUG-19
F4 (C34-C50)				104.6		%		60-140	15-AUG-19
	4759700								
WG3135426-8 F2 (C10-C16)	DUP		WG3135426-1 0) <10	RPD-NA	ug/g	N/A	30	19-AUG-19
F3 (C16-C34)			<50	<50	RPD-NA	ug/g	N/A	30	19-AUG-19
F4 (C34-C50)			<50 <50	<50	RPD-NA RPD-NA	ug/g ug/g	N/A N/A	30	19-AUG-19 19-AUG-19
WG3135426-7	LCS		\ 00		KFD-INA		IN/A		
F2 (C10-C16)				89.6		%		80-120	19-AUG-19
F3 (C16-C34)				88.6		%		80-120	19-AUG-19
F4 (C34-C50)				89.4		%		80-120	19-AUG-19
WG3135426-6 F2 (C10-C16)	MB			<10		ug/g		10	19-AUG-19
F3 (C16-C34)				<50		ug/g		50	19-AUG-19
F4 (C34-C50)				<50		ug/g		50	19-AUG-19
Surrogate: 2-Bi	romobenz	otrifluoride		72.2		%		60-140	19-AUG-19
WG3135426-9 F2 (C10-C16)	MS		WG3135426-10) 100.5		%		60-140	19-AUG-19
F3 (C16-C34)				100.5		%		60-140	19-AUG-19
F4 (C34-C50)				101.7		%		60-140	19-AUG-19
				101		70		00-140	19-700-19
F4G-ADD-511-WT		Soil							
Batch R4 WG3138702-2	4761880 LCS								
F4G-SG (GHH-				68.3		%		60-140	19-AUG-19
WG3138702-1 F4G-SG (GHH	MB -Silica)			<250		ug/g		250	19-AUG-19
HG-200.2-CVAA-W	/T	Soil							
Batch R4	4763934								
WG3139671-2 Mercury (Hg)	CRM		WT-CANMET-	ΓΙLL1 95.1		%		70-130	22-AUG-19
WG3139671-6 Mercury (Hg)	DUP		WG3139671-5 0.0058	0.0071		ug/g	21	40	22-AUG-19



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAA-WT	Soil							
Batch R4763934 WG3139671-3 LCS Mercury (Hg)			104.0		%		80-120	22-AUG-19
WG3139671-1 MB Mercury (Hg)			<0.0050		mg/kg		0.005	22-AUG-19
MET-200.2-CCMS-WT	Soil							
Batch R4764841								
WG3139671-2 CRM Antimony (Sb)		WT-CANMET-	TILL1 86.1		%		70-130	22-AUG-19
Arsenic (As)			87.5		%		70-130	22-AUG-19
Barium (Ba)			86.1		%		70-130	22-AUG-19
Beryllium (Be)			90.5		%		70-130	22-AUG-19
Boron (B)			3.1		mg/kg		0-8.2	22-AUG-19
Cadmium (Cd)			93.7		%		70-130	22-AUG-19
Chromium (Cr)			93.7		%		70-130	22-AUG-19
Cobalt (Co)			90.4		%		70-130	22-AUG-19
Copper (Cu)			91.5		%		70-130	22-AUG-19
Lead (Pb)			90.4		%		70-130	22-AUG-19
Molybdenum (Mo)			90.5		%		70-130	22-AUG-19
Nickel (Ni)			92.1		%		70-130	22-AUG-19
Selenium (Se)			0.28		mg/kg		0.11-0.51	22-AUG-19
Silver (Ag)			0.20		mg/kg		0.13-0.33	22-AUG-19
Thallium (TI)			0.113		mg/kg		0.077-0.18	22-AUG-19
Uranium (U)			91.5		%		70-130	22-AUG-19
Vanadium (V)			93.3		%		70-130	22-AUG-19
Zinc (Zn)			87.2		%		70-130	22-AUG-19
WG3139671-6 DUP Antimony (Sb)		WG3139671-5 <0.10	<0.10	RPD-NA	ug/g	N/A	30	22-AUG-19
Arsenic (As)		1.85	2.08		ug/g	12	30	22-AUG-19
Barium (Ba)		24.5	26.4		ug/g	7.3	40	22-AUG-19
Beryllium (Be)		0.23	0.26		ug/g	9.2	30	22-AUG-19
Boron (B)		5.5	6.4		ug/g	15	30	22-AUG-19
Cadmium (Cd)		0.156	0.157		ug/g	0.7	30	22-AUG-19
Chromium (Cr)		9.60	10.6		ug/g	10	30	22-AUG-19
Cobalt (Co)		3.67	4.02		ug/g	9.0	30	22-AUG-19
Copper (Cu)		8.02	8.66		ug/g	7.7	30	22-AUG-19



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KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4764841								
WG3139671-6 DUP		WG3139671-5	40.4					
Lead (Pb)		9.51	10.4		ug/g	8.5	40	22-AUG-19
Molybdenum (Mo)		0.19	0.22		ug/g	11	40	22-AUG-19
Nickel (Ni)		7.90	8.59		ug/g	8.3	30	22-AUG-19
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	22-AUG-19
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	22-AUG-19
Thallium (TI)		0.063	0.068		ug/g	7.2	30	22-AUG-19
Uranium (U)		0.369	0.384		ug/g	4.0	30	22-AUG-19
Vanadium (V)		16.1	17.6		ug/g	8.9	30	22-AUG-19
Zinc (Zn)		64.5	69.8		ug/g	7.8	30	22-AUG-19
WG3139671-4 LCS Antimony (Sb)			99.9		%		80-120	22-AUG-19
Arsenic (As)			94.7		%		80-120	22-AUG-19
Barium (Ba)			91.5		%		80-120	22-AUG-19
Beryllium (Be)			91.4		%		80-120	22-AUG-19
Boron (B)			90.2		%		80-120	22-AUG-19
Cadmium (Cd)			95.3		%		80-120	22-AUG-19
Chromium (Cr)			94.8		%		80-120	22-AUG-19
Cobalt (Co)			93.7		%		80-120	22-AUG-19
Copper (Cu)			91.8		%		80-120	22-AUG-19
Lead (Pb)			91.4		%		80-120	22-AUG-19
Molybdenum (Mo)			98.7		%		80-120	22-AUG-19
Nickel (Ni)			93.1		%		80-120	22-AUG-19
Selenium (Se)			94.4		%		80-120	22-AUG-19
Silver (Ag)			97.0		%		80-120	22-AUG-19
Thallium (TI)			94.2		%		80-120	22-AUG-19
Uranium (U)			91.7		%		80-120	22-AUG-19
Vanadium (V)			96.6		%		80-120	22-AUG-19
Zinc (Zn)			88.7		%		80-120	22-AUG-19
WG3139671-1 MB			<0.10		ma/ka		0.1	00 410 40
Antimony (Sb) Arsenic (As)			<0.10		mg/kg		0.1	22-AUG-19
, ,					mg/kg			22-AUG-19
Barium (Ba) Beryllium (Be)			<0.50		mg/kg		0.5	22-AUG-19
, ,			<0.10		mg/kg		0.1	22-AUG-19
Boron (B)			<5.0		mg/kg		5	22-AUG-19



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72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4764841								
WG3139671-1 MB Cadmium (Cd)			<0.020		mg/kg		0.02	22-AUG-19
Chromium (Cr)			<0.50		mg/kg		0.5	22-AUG-19
Cobalt (Co)			<0.10		mg/kg		0.1	22-AUG-19
Copper (Cu)			<0.50		mg/kg		0.5	22-AUG-19
Lead (Pb)			<0.50		mg/kg		0.5	22-AUG-19
Molybdenum (Mo)			<0.10		mg/kg		0.1	22-AUG-19
Nickel (Ni)			<0.50		mg/kg		0.5	22-AUG-19
Selenium (Se)			<0.20		mg/kg		0.2	22-AUG-19
Silver (Ag)			<0.10		mg/kg		0.1	22-AUG-19
Thallium (TI)			<0.050		mg/kg		0.05	22-AUG-19
Uranium (U)			<0.050		mg/kg		0.05	22-AUG-19
Vanadium (V)			<0.20		mg/kg		0.2	22-AUG-19
Zinc (Zn)			<2.0		mg/kg		2	22-AUG-19
MOISTURE-WT	Soil							
Batch R4754412								
WG3132183-3 DUP % Moisture		L2326144-1 11.6	11.0		%	5.4	20	14-AUG-19
WG3132183-2 LCS % Moisture			101.0		%		90-110	14-AUG-19
WG3132183-1 MB % Moisture			<0.10		%		0.1	14-AUG-19
Batch R4757741								
WG3134554-3 DUP % Moisture		L2328062-2 4.42	3.87		%	13	20	16-AUG-19
WG3134554-2 LCS % Moisture			98.3		%		90-110	16-AUG-19
WG3134554-1 MB % Moisture			<0.10		%		0.1	16-AUG-19
PAH-511-WT	Soil							
Batch R4758960								
WG3132662-3 DUP 1-Methylnaphthalene		WG3132662-5 <0.030	<0.030	RPD-NA	ug/g	N/A	40	19-AUG-19
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	19-AUG-19
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4758960								
WG3132662-3 DUP		WG3132662-5			,			
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(b)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(g,h,i)perylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Benzo(k)fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Chrysene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Dibenzo(ah)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	19-AUG-19
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	19-AUG-19
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	19-AUG-19
WG3132662-2 LCS								
1-Methylnaphthalene			98.2		%		50-140	19-AUG-19
2-Methylnaphthalene			93.4		%		50-140	19-AUG-19
Acenaphthene			99.6		%		50-140	19-AUG-19
Acenaphthylene			101.9		%		50-140	19-AUG-19
Anthracene			97.9		%		50-140	19-AUG-19
Benzo(a)anthracene			97.9		%		50-140	19-AUG-19
Benzo(a)pyrene			94.9		%		50-140	19-AUG-19
Benzo(b)fluoranthene			85.7		%		50-140	19-AUG-19
Benzo(g,h,i)perylene			99.0		%		50-140	19-AUG-19
Benzo(k)fluoranthene			103.7		%		50-140	19-AUG-19
Chrysene			101.9		%		50-140	19-AUG-19
Dibenzo(ah)anthracene			99.3		%		50-140	19-AUG-19
Fluoranthene			95.9		%		50-140	19-AUG-19
Fluorene			97.5		%		50-140	19-AUG-19
Indeno(1,2,3-cd)pyrene			100.0		%		50-140	19-AUG-19
Naphthalene			96.1		%		50-140	19-AUG-19
Phenanthrene			98.2		%		50-140	19-AUG-19
Pyrene			96.0		%		50-140	19-AUG-19



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

PAH-511-WT Soil Salta	Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
WG112682-1 MB 1-Methylmaphthalene	PAH-511-WT	Soil							
1-Metrlyhraphthalene	Batch R475896	60							
2-Methylnaphthalene <0.030				0.000				0.00	
Acenaphthene									
Acenaphthylene									
Anthracene									
Benzo(a)anthracene									
Benzo(a)pyrene <0.050									
Benzo(b)fluoranthene <0.050									
Benzo(g,h,i)perylene <0.050									
Benzo(k)fluoranthene <0.050)							
Chrysene <0.050 ug/g 0.05 19-AUG-19 Dibenzo(ah)anthracene <0.050									
Dibenzo(ah)anthracene)							
Fluoranthene C.0.50 ug/g 0.0.5 19-AUG-19 Fluorene C.0.50 ug/g 0.05 19-AUG-19 Indeno(1,2,3-cd)pyrene C.0.50 ug/g 0.05 19-AUG-19 Naphthalene C.0.46 ug/g 0.046 19-AUG-19 Pyrene C.0.50 ug/g 0.05 19-AUG-19 Surrogate: 2-Fluorobiphenyl 94.8 % 50-140 19-AUG-19 WG3132662-4 MS \$0-140 19-AUG-19 WG3132662-5 1-Methylnaphthalene 95.2 % 50-140 19-AUG-19 2-Methylnaphthalene 99.9 %	-								
Fluorene <0.050 ug/g 0.05 19-AUG-19 Indeno(1,2,3-cd)pyrene <0.050		ne							19-AUG-19
Indeno(1,2,3-cd)pyrene									19-AUG-19
Naphthalene <0.013						ug/g			19-AUG-19
Phenanthrene <0.046		ne		<0.050		ug/g		0.05	19-AUG-19
Pyrene <0.050 ug/g 0.05 19-AUG-19 Surrogate: 2-Fluorobiphenyl 94.8 % 50-140 19-AUG-19 Surrogate: p-Terphenyl d14 87.5 % 50-140 19-AUG-19 WG3132662-4 MS WG3132662-5 * 50-140 19-AUG-19 1-Methylnaphthalene 95.2 % 50-140 19-AUG-19 2-Methylnaphthalene 90.7 % 50-140 19-AUG-19 Acenaphthylene 100.1 % 50-140 19-AUG-19 Acenaphthylene 100.1 % 50-140 19-AUG-19 Anthracene 95.9 % 50-140 19-AUG-19 Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140	Naphthalene			<0.013		ug/g		0.013	19-AUG-19
Surrogate: 2-Fluorobiphenyl 94.8 % 50-140 19-AUG-19 Surrogate: p-Terphenyl d14 87.5 % 50-140 19-AUG-19 WG3132662-4 MS WG3132662-5 1-Methylnaphthalene 95.2 % 50-140 19-AUG-19 2-Methylnaphthalene 90.7 % 50-140 19-AUG-19 Acenaphthene 96.9 % 50-140 19-AUG-19 Acenaphthylene 100.1 % 50-140 19-AUG-19 Anthracene 95.9 % 50-140 19-AUG-19 Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(b)fluoranthene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Phenanthrene			<0.046		ug/g		0.046	19-AUG-19
Surrogate: p-Terphenyl d14 87.5 % 50-140 19-AUG-19 WG3132662-4 MS WG3132662-5 1-Methylnaphthalene 95.2 % 50-140 19-AUG-19 2-Methylnaphthalene 90.7 % 50-140 19-AUG-19 Acenaphthene 96.9 % 50-140 19-AUG-19 Acenaphthylene 100.1 % 50-140 19-AUG-19 Anthracene 95.9 % 50-140 19-AUG-19 Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Pyrene			<0.050		ug/g		0.05	19-AUG-19
WG3132662-4 MS WG3132662-5 1-Methylnaphthalene 95.2 % 50-140 19-AUG-19 2-Methylnaphthalene 90.7 % 50-140 19-AUG-19 Acenaphthene 96.9 % 50-140 19-AUG-19 Acenaphthylene 100.1 % 50-140 19-AUG-19 Anthracene 95.9 % 50-140 19-AUG-19 Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Surrogate: 2-Fluorobi	phenyl		94.8		%		50-140	19-AUG-19
1-Methylnaphthalene 95.2 % 50-140 19-AUG-19 2-Methylnaphthalene 90.7 % 50-140 19-AUG-19 Acenaphthene 96.9 % 50-140 19-AUG-19 Acenaphthylene 100.1 % 50-140 19-AUG-19 Anthracene 95.9 % 50-140 19-AUG-19 Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Surrogate: p-Terphen	ıyl d14		87.5		%		50-140	19-AUG-19
2-Methylnaphthalene 90.7 % 50-140 19-AUG-19 Acenaphthene 96.9 % 50-140 19-AUG-19 Acenaphthylene 100.1 % 50-140 19-AUG-19 Anthracene 95.9 % 50-140 19-AUG-19 Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19			WG3132662-5						
Acenaphthene 96.9 % 50-140 19-AUG-19 Acenaphthylene 100.1 % 50-140 19-AUG-19 Anthracene 95.9 % 50-140 19-AUG-19 Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19									
Acenaphthylene 100.1 % 50-140 19-AUG-19 Anthracene 95.9 % 50-140 19-AUG-19 Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19								50-140	19-AUG-19
Anthracene 95.9 % 50-140 19-AUG-19 Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19								50-140	19-AUG-19
Benzo(a)anthracene 97.4 % 50-140 19-AUG-19 Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Acenaphthylene							50-140	19-AUG-19
Benzo(a)pyrene 93.0 % 50-140 19-AUG-19 Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Anthracene			95.9				50-140	19-AUG-19
Benzo(b)fluoranthene 83.7 % 50-140 19-AUG-19 Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Benzo(a)anthracene			97.4				50-140	19-AUG-19
Benzo(g,h,i)perylene 91.3 % 50-140 19-AUG-19 Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19				93.0				50-140	19-AUG-19
Benzo(k)fluoranthene 100.2 % 50-140 19-AUG-19 Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Benzo(b)fluoranthene)		83.7		%		50-140	19-AUG-19
Chrysene 99.2 % 50-140 19-AUG-19 Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Benzo(g,h,i)perylene			91.3		%		50-140	19-AUG-19
Dibenzo(ah)anthracene 92.6 % 50-140 19-AUG-19	Benzo(k)fluoranthene)		100.2		%		50-140	19-AUG-19
	Chrysene			99.2		%		50-140	19-AUG-19
Fluoranthene 94.8 % 50-140 19-AUG-19	Dibenzo(ah)anthrace	ne		92.6		%		50-140	19-AUG-19
	Fluoranthene			94.8		%		50-140	19-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4758960								
WG3132662-4 MS		WG3132662-5			%		50.440	
Fluorene Indeno(1,2,3-cd)pyrene			94.8 101.3		%		50-140	19-AUG-19
Naphthalene			93.2		%		50-140	19-AUG-19
Phenanthrene			94.7		%		50-140 50-140	19-AUG-19
Pyrene			95.7		%		50-140	19-AUG-19
•			93.1		70		50-140	19-AUG-19
Batch R4759630 WG3134770-3 DUP		WG3134770-5						
1-Methylnaphthalene		< 0.030	<0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Anthracene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Benzo(a)pyrene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Benzo(b)fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Benzo(g,h,i)perylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Benzo(k)fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Chrysene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Dibenzo(ah)anthracene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Fluorene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	20-AUG-19
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	20-AUG-19
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
WG3134770-2 LCS								
1-Methylnaphthalene			100.6		%		50-140	20-AUG-19
2-Methylnaphthalene			96.4		%		50-140	20-AUG-19
Acenaphthene			102.9		%		50-140	20-AUG-19
Acenaphthylene			107.9		%		50-140	20-AUG-19
Anthracene			101.9		%		50-140	20-AUG-19
Benzo(a)anthracene			106.0		%		50-140	20-AUG-19
Benzo(a)pyrene			101.6		%		50-140	20-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

2-Methylnaphthalene <0.030 ug/g 0.03 20-AUG-19 Acenaphthene <0.050 ug/g 0.05 20-AUG-19 Acenaphthylene <0.050 ug/g 0.05 20-AUG-19 Anthracene <0.050 ug/g 0.05 20-AUG-19 Benzo(a)anthracene <0.050 ug/g 0.05 20-AUG-19 Benzo(a)pyrene <0.050 ug/g 0.05 20-AUG-19 Benzo(b)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Benzo(g,h,i)perylene <0.050 ug/g 0.05 20-AUG-19 Benzo(k)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Chrysene <0.050 ug/g 0.05 20-AUG-19 Chrysene <0.050 ug/g 0.05 20-AUG-19 Dibenzo(ah)anthracene <0.050 ug/g 0.05 20-AUG-19 Fluoranthene <0.050 ug/g 0.05 20-AUG-19 Fluorene <0.050 ug/g 0.05 20-AUG-19 Indeno(1,2,3-cd)pyrene <0.050 ug/g 0.05 20-	Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Benzo(p) fluoranthene 99.6 % 50-140 20-AUG-19	PAH-511-WT	Soil							
Benzo(b)fluoranthene 99.6 % 50-140 20-AUG-19	Batch R4759630								
Benzo(g,h,li)perylene				00.6		0/_		EO 140	20 4110 40
Benzo(k)fluoranthene 100.5 % 50-140 20-AUG-19 Chrysene 106.3 % 50-140 20-AUG-19 Dibenzo(ah)anthracene 100.8 % 50-140 20-AUG-19 Fluoranthene 101.1 % 50-140 20-AUG-19 Fluoranthene 101.1 % 50-140 20-AUG-19 Indeno(1,2,3-cd)pyrene 103.0 % 50-140 20-AUG-19 Indeno(1,2,3-cd)pyrene 103.0 % 50-140 20-AUG-19 Prena 102.5 % 50-AUG-19 Prena 102.5									
Chrysene 106.3 % 50-140 20-AUG-19 Dibenzo(ah)anthracene 100.8 % 50-140 20-AUG-19 Fluoranthene 101.1 % 50-140 20-AUG-19 Fluorene 101.7 % 50-140 20-AUG-19 Fluorene 101.7 % 50-140 20-AUG-19 Indeno(1,2,3-cd)pyrene 103.0 % 50-140 20-AUG-19 Naphthalene 98.1 % 50-140 20-AUG-19 Phenanthrene 101.8 % 50-140 20-AUG-19 Phenanthrene 101.8 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 WG3134770-1 MB									
Dibenzo(ah)anthracene 100.8 % 50.140 20-AUG-19 Fluoranthene 101.1 % 50.140 20-AUG-19 Fluoranthene 101.1 % 50.140 20-AUG-19 Indeno(1,2,3-cd)pyrene 103.0 % 50.140 20-AUG-19 Indeno(1,2,3-cd)pyrene 103.0 % 50.140 20-AUG-19 Phenanthrene 101.8 % 50.140 20-AUG-19 Phenanthrene 101.8 % 50.140 20-AUG-19 Pyrene 102.5 % 50.140 2	, ,								
Fluoranthene 101.1 % 50-140 20-AUG-19 Fluorene 101.7 % 50-140 20-AUG-19 Fluorene 101.7 % 50-140 20-AUG-19 Indenot(1,2,3-cd)pyrene 103.0 % 50-140 20-AUG-19 Naphthalene 98.1 % 50-140 20-AUG-19 Phenanthrene 101.8 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 WG3134770-1 MB 1-Methylnaphthalene <0.030 ug/g 0.03 20-AUG-19 2-Methylnaphthalene <0.030 ug/g 0.03 20-AUG-19 Acenaphthene <0.050 ug/g 0.05 20-AUG-19 Acenaphthylene <0.050 ug/g 0.05 20-AUG-19 Acenaphthylene <0.050 ug/g 0.05 20-AUG-19 Benzo(a)pyrene <0.050 ug/g 0.05 20-AUG-19 Benzo(a)pyrene <0.050 ug/g 0.05 20-AUG-19 Benzo(b)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Benzo(b)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Benzo(k)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Fluoranthene <0.050 ug/g 0.05 20-AUG-19 Benzo(k)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Benzo(k)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Fluoranthene	•								
Fluorene 101.7 % 50-140 20-AUG-19 Indeno(1,2,3-cd)pyrene 103.0 % 50-140 20-AUG-19 Naphthalene 98.1 % 50-140 20-AUG-19 Naphthalene 98.1 % 50-140 20-AUG-19 Phenanthrene 101.8 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 Pyrene 20.030 ug/g 0.03 20-AUG-19 Pyrene 20.030 ug/g 0.03 20-AUG-19 Pyrene 20.050 ug/g 0.05 20-AUG-19 Pyrene 20.050 ug/g 0.05 20-AUG-19 Pyrene 20.050 ug/g 0.05 20-AUG-19 Pyrene 20.050 ug/g 0.05 20-AUG-19 Pyrene 20.050 ug/g 0.05 20-AUG-19 Pyrene 20.050 ug/g 0.05 20-AUG-19 Pyrene 20.050 ug/g 0.05 20-AUG-19 Pyrene 20.050 ug/g 0.05 20-AUG-19 Pyrene 20.050 ug/g 0.05 20-AUG-19 Pilorao(k)/Ituoranthene 20.050 ug/g 0.05 20-AUG-19 Piloraon(k)/Ituoranthene 20.050 ug/g 0.05 20-AUG-19 Piloraon(k)/Ituoranth									
Indeno(1,2,3-cd)pyrene 103.0 % 50-140 20-AUG-19 Naphthalene 98.1 % 50-140 20-AUG-19 Phenanthrene 101.8 % 50-140 20-AUG-19 Phenanthrene 102.5 % 50-140 20-AUG-19 Pyrene 102.5 Pyrene 103.0 Pyrene									
Naphthalene 98.1 % 50-140 20-AUG-19 Phenanthrene 101.8 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 WG3134770-1 MB 1-Methylnaphthalene <0.030									
Phenanthrene 101.8 % 50-140 20-AUG-19 Pyrene 102.5 % 50-140 20-AUG-19 WG3134770-1 MB 1-Methylinaphthalene <0.030 ug/g 0.03 20-AUG-19 2-Methylinaphthalene <0.030 ug/g 0.03 20-AUG-19 Acenaphthene <0.050 ug/g 0.05 20-AUG-19 Acenaphthyliene <0.050 ug/g 0.05 20-AUG-19 Acenaphthyliene <0.050 ug/g 0.05 20-AUG-19 Anthracene <0.050 ug/g 0.05 20-AUG-19 Benzo(a)anthracene <0.050 ug/g 0.05 20-AUG-19 Benzo(a)pyrene <0.050 ug/g 0.05 20-AUG-19 Benzo(b)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Benzo(b)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Benzo(k)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Benzo(k)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Chrysene <0.050 ug/g 0.05 20-AUG-19 Dibenzo(a)hanthracene <0.050 ug/g 0.05 20-AUG-19 Fluoranthene <0.060 ug/g 0.05 20-AUG-19 Fluoranthene <0.060 ug/g 0.05 20-AUG-19 Fluoranthene <0.060 ug/g 0.05 20-AUG-19 Fluoranthene <0.060 ug/g 0.05 20-AUG-19 Fluoranthene <0.060 ug/g 0.05 20-AUG-19 Fluoranthene <0.060 ug/g 0.05 20-AUG-19 Fluoranthene <0.060 ug/g 0.05 20-AUG-19 Fluoranthene <0.060 ug/g 0.060 20-AUG-19 Fluoranthene <0.060 ug/g 0.060 20-AUG-19 Fluoranthene <0.060 ug/g 0.060 20-AUG-19 Fluoranthene <0.060 ug/g 0.060 20-AUG-19 Fluoranthylene &0.060 ug/g 0.060 20-AUG-19 Fluoranthylene &0.060 ug/g 0.060 20-AUG-19 Fluora									
Pyrene 102.5 % 50-140 20-AUG-19 WG3134770-1 MB MB <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>									
WG3134770-1 MB 1-Methylnaphthalene <0.030									
1-Methylnaphthalene	-			102.5		70		50-140	20-AUG-19
Acenaphthene <0.050				<0.030		ug/g		0.03	20-AUG-19
Acenaphthylene <0.050	2-Methylnaphthalene			<0.030		ug/g		0.03	20-AUG-19
Anthracene <0.050 ug/g 0.05 20-AUG-19 Benzo(a)anthracene <0.050 ug/g 0.05 20-AUG-19 Benzo(a)pyrene <0.050 ug/g 0.05 20-AUG-19 Benzo(b)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Benzo(g,h,i)perylene <0.050 ug/g 0.05 20-AUG-19 Benzo(g,h,i)perylene <0.050 ug/g 0.05 20-AUG-19 Benzo(k)fluoranthene <0.050 ug/g 0.05 20-AUG-19 Chrysene <0.050 ug/g 0.05 20-AUG-19 Chrysene <0.050 ug/g 0.05 20-AUG-19 Dibenzo(ah)anthracene <0.050 ug/g 0.05 20-AUG-19 Fluoranthene <0.050 ug/g 0.05 20-AUG-19 Fluorene <0.050 ug/g 0.05 20-AUG-19 Indeno(1,2,3-cd)pyrene <0.050 ug/g 0.05 20-AUG-19 Indeno(1,2,3-cd)pyrene <0.050 ug/g 0.05 20-AUG-19 Naphthalene <0.013 ug/g 0.05 20-AUG-19 Phenanthrene <0.046 ug/g 0.013 20-AUG-19 Pyrene <0.050 ug/g 0.05 20-AUG-19 Surrogate: 2-Fluorobiphenyl 104.1 % 50-140 20-AUG-19 Surrogate: 2-Fluorobiphenyl d14 90.2 % 50-140 20-AUG-19 Surrogate: p-Terphenyl d14 90.2 % 50-140 20-AUG-19	Acenaphthene			< 0.050		ug/g		0.05	20-AUG-19
Benzo(a)anthracene < 0.050	Acenaphthylene			< 0.050		ug/g		0.05	20-AUG-19
Benzo(a)pyrene <0.050	Anthracene			< 0.050		ug/g		0.05	20-AUG-19
Benzo(b)fluoranthene <0.050	Benzo(a)anthracene			<0.050		ug/g		0.05	20-AUG-19
Benzo(g,h,i)perylene <0.050	Benzo(a)pyrene			< 0.050		ug/g		0.05	20-AUG-19
Benzo(k)fluoranthene <0.050	Benzo(b)fluoranthene			< 0.050		ug/g		0.05	20-AUG-19
Chrysene <0.050 ug/g 0.05 20-AUG-19 Dibenzo(ah)anthracene <0.050	Benzo(g,h,i)perylene			< 0.050		ug/g		0.05	20-AUG-19
Dibenzo(ah)anthracene <0.050 ug/g 0.05 20-AUG-19 Fluoranthene <0.050	Benzo(k)fluoranthene			<0.050		ug/g		0.05	20-AUG-19
Fluoranthene <0.050 ug/g 0.05 20-AUG-19 Fluorene <0.050	Chrysene			< 0.050		ug/g		0.05	20-AUG-19
Fluorene < 0.050 ug/g 0.05 20-AUG-19 Indeno(1,2,3-cd)pyrene < 0.050 ug/g 0.05 20-AUG-19 Naphthalene < 0.013 ug/g 0.013 20-AUG-19 Phenanthrene < 0.046 ug/g 0.046 20-AUG-19 Pyrene < 0.050 ug/g 0.05 20-AUG-19 Surrogate: 2-Fluorobiphenyl 104.1 % 50-140 20-AUG-19 Surrogate: p-Terphenyl d14 90.2 % 50-140 20-AUG-19 WG3134770-4 MS WG3134770-5	Dibenzo(ah)anthracene			< 0.050		ug/g		0.05	20-AUG-19
Indeno(1,2,3-cd)pyrene <0.050	Fluoranthene			< 0.050		ug/g		0.05	20-AUG-19
Naphthalene <0.013	Fluorene			< 0.050		ug/g		0.05	20-AUG-19
Phenanthrene <0.046 ug/g 0.046 20-AUG-19 Pyrene <0.050	Indeno(1,2,3-cd)pyrene			< 0.050		ug/g		0.05	20-AUG-19
Pyrene <0.050 ug/g 0.05 20-AUG-19 Surrogate: 2-Fluorobiphenyl 104.1 % 50-140 20-AUG-19 Surrogate: p-Terphenyl d14 90.2 % 50-140 20-AUG-19 WG3134770-4 MS WG3134770-5 VG3134770-5 WG3134770-5	Naphthalene			<0.013		ug/g		0.013	20-AUG-19
Surrogate: 2-Fluorobiphenyl 104.1 % 50-140 20-AUG-19 Surrogate: p-Terphenyl d14 90.2 % 50-140 20-AUG-19 WG3134770-4 MS WG3134770-5	Phenanthrene			<0.046		ug/g		0.046	20-AUG-19
Surrogate: 2-Fluorobiphenyl 104.1 % 50-140 20-AUG-19 Surrogate: p-Terphenyl d14 90.2 % 50-140 20-AUG-19 WG3134770-4 MS WG3134770-5	Pyrene			<0.050		ug/g		0.05	20-AUG-19
Surrogate: p-Terphenyl d14 90.2 % 50-140 20-AUG-19 WG3134770-4 MS WG3134770-5	Surrogate: 2-Fluorobiphe	enyl		104.1		%		50-140	20-AUG-19
WG3134770-4 MS WG3134770-5	Surrogate: p-Terphenyl o	d14		90.2		%		50-140	20-AUG-19
	WG3134770-4 MS		WG3134770-5						
1-Methylnaphthalene 100.8 % 50-140 20-AUG-19				100.8		%		50-140	20-AUG-19



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4759630 WG3134770-4 MS		WG3134770-5	06.2		%		50.440	00 1110 10
2-Methylnaphthalene			96.2 102.7		%		50-140	20-AUG-19
Acenaphthene							50-140	20-AUG-19
Acenaphthylene			105.9 102.1		%		50-140	20-AUG-19
Anthracene					%		50-140	20-AUG-19
Benzo(a)anthracene			105.7				50-140	20-AUG-19
Benzo(a)pyrene			101.6		%		50-140	20-AUG-19
Benzo(b)fluoranthene			105.3		%		50-140	20-AUG-19
Benzo(g,h,i)perylene			99.6		%		50-140	20-AUG-19
Benzo(k)fluoranthene			98.8		%		50-140	20-AUG-19
Chrysene			107.4		%		50-140	20-AUG-19
Dibenzo(ah)anthracene			101.3		%		50-140	20-AUG-19
Fluoranthene			100.7		%		50-140	20-AUG-19
Fluorene			100.9		%		50-140	20-AUG-19
Indeno(1,2,3-cd)pyrene			104.6		%		50-140	20-AUG-19
Naphthalene			98.6		%		50-140	20-AUG-19
Phenanthrene			102.3		%		50-140	20-AUG-19
Pyrene			102.2		%		50-140	20-AUG-19
PH-WT	Soil							
Batch R4761648								
WG3136112-1 DUP pH		L2328868-11 8.03	8.19	J	pH units	0.16	0.3	20-AUG-19
WG3137812-1 LCS pH			6.94		pH units		6.9-7.1	20-AUG-19
SAR-R511-WT	Soil							
Batch R4764550								
WG3139782-4 DUP Calcium (Ca)		WG3139782-3 19.9	19.4		mg/L	2.5	30	22-AUG-19
Sodium (Na)		192	191		mg/L	0.5	30	22-AUG-19
Magnesium (Mg)		4.09	3.97		mg/L	3.0	30	22-AUG-19
WG3139782-2 IRM		WT SAR3			3 -	3.0		22 7.00 10
Calcium (Ca)		III OAIIO	92.7		%		70-130	22-AUG-19
Sodium (Na)			100.9		%		70-130	22-AUG-19
Magnesium (Mg)			95.7		%		70-130	22-AUG-19
WG3139782-5 LCS								



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matri	x Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT	Soil							
Batch R4764	550							
WG3139782-5 LC	cs		100.0		0/			
Calcium (Ca)			102.3		%		70-130	22-AUG-19
Sodium (Na)			100.6		%		70-130	22-AUG-19
Magnesium (Mg)	_		97.8		%		70-130	22-AUG-19
WG3139782-1 M I Calcium (Ca)	В		<0.50		mg/L		0.5	22-AUG-19
Sodium (Na)			<0.50		mg/L		0.5	22-AUG-19
Magnesium (Mg)			<0.50		mg/L		0.5	22-AUG-19
Batch R4764	840							
	UP	WG3139781-3						
Calcium (Ca)		31.9	31.9		mg/L	0.0	30	22-AUG-19
Sodium (Na)		35.4	35.0		mg/L	1.1	30	22-AUG-19
Magnesium (Mg)		4.34	4.31		mg/L	0.7	30	22-AUG-19
WG3139781-2 IR	М	WT SAR3			0.4			
Calcium (Ca)			92.5		%		70-130	22-AUG-19
Sodium (Na)			101.6		%		70-130	22-AUG-19
Magnesium (Mg)			96.2		%		70-130	22-AUG-19
WG3139781-5 LC Calcium (Ca)	CS		102.7		%		70-130	22-AUG-19
Sodium (Na)			100.8		%		70-130	22-AUG-19
Magnesium (Mg)			98.2		%		70-130	22-AUG-19
WG3139781-1 MI	В							
Calcium (Ca)			<0.50		mg/L		0.5	22-AUG-19
Sodium (Na)			<0.50		mg/L		0.5	22-AUG-19
Magnesium (Mg)			<0.50		mg/L		0.5	22-AUG-19
Batch R4765	241							
	UP	WG3140439-3	00.7		4			
Calcium (Ca)		20.7	20.7		mg/L	0.0	30	22-AUG-19
Sodium (Na)		6.63	6.48		mg/L	2.3	30	22-AUG-19
Magnesium (Mg)		2.14	2.14		mg/L	0.0	30	22-AUG-19
WG3140439-2 IR Calcium (Ca)	М	WT SAR3	80.4		%		70-130	22-AUG-19
Sodium (Na)			98.5		%		70-130	22-AUG-19
Magnesium (Mg)			85.5		%		70-130	22-AUG-19
WG3140439-5 LC Calcium (Ca)	CS		101.3		%		70-130	22-AUG-19
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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT	Soil							
Batch R47652								
WG3140439-5 LCS	6							
Sodium (Na)			100.0		%		70-130	22-AUG-19
Magnesium (Mg)			97.0		%		70-130	22-AUG-19
WG3140439-1 MB Calcium (Ca)			<0.50		mg/L		0.5	22-AUG-19
Sodium (Na)			<0.50		mg/L		0.5	22-AUG-19
Magnesium (Mg)			<0.50		mg/L		0.5	22-AUG-19
Batch R47825	65							
WG3150996-4 DUI	P	WG3150996-3						
Calcium (Ca)		5.01	4.72		mg/L	6.0	30	04-SEP-19
Sodium (Na)		28.9	34.2		mg/L	17	30	04-SEP-19
Magnesium (Mg)		0.87	1.01		mg/L	15	30	04-SEP-19
WG3150996-2 IRN Calcium (Ca)		WT SAR3	90.2		%		70-130	04-SEP-19
Sodium (Na)			95.4		%		70-130	04-SEP-19
Magnesium (Mg)			96.2		%		70-130	04-SEP-19
WG3150996-5 LC \$ Calcium (Ca)	5		106.7		%		70-130	04-SEP-19
Sodium (Na)			101.0		%		70-130	04-SEP-19
Magnesium (Mg)			104.2		%		70-130	04-SEP-19
WG3150996-1 MB							0.5	
Calcium (Ca) Sodium (Na)			<0.50 <0.50		mg/L mg/L		0.5	04-SEP-19
Magnesium (Mg)			<0.50		mg/L		0.5	04-SEP-19 04-SEP-19
			\0.50		mg/L		0.0	04-3EF-19
Batch R47827 WG3151001-4 DU		L2328158-6						
Calcium (Ca)		54.0	54.0		mg/L	0.0	30	04-SEP-19
Sodium (Na)		87.1	87.1		mg/L	0.0	30	04-SEP-19
Magnesium (Mg)		4.57	4.57		mg/L	0.0	30	04-SEP-19
WG3151001-2 IRN	1	WT SAR3						
Calcium (Ca)			87.6		%		70-130	04-SEP-19
Sodium (Na)			95.4		%		70-130	04-SEP-19
Magnesium (Mg)			93.0		%		70-130	04-SEP-19
WG3151001-5 LCS Calcium (Ca)	5		107.0		%		70-130	04-SEP-19
Sodium (Na)			107.8		%		70-130 70-130	04-SEP-19 04-SEP-19
253.3 (114)			101.0		, ,		70-130	0 1 -061 - 13



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT	Soil							
Batch R4782730								
WG3151001-5 LCS Magnesium (Mg)			104.4		%		70-130	04-SEP-19
WG3151001-1 MB							70 100	04 0 21 10
Calcium (Ca)			<0.50		mg/L		0.5	04-SEP-19
Sodium (Na)			<0.50		mg/L		0.5	04-SEP-19
Magnesium (Mg)			<0.50		mg/L		0.5	04-SEP-19
VOC-511-HS-WT	Soil							
Batch R4759541								
WG3136345-4 DUP	20	WG3136345-3		DDD MA	ug/g	N1/A	40	00 1110 10
1,1,1,2-Tetrachloroetha 1,1,2,2-Tetrachloroetha		<0.050 <0.050	<0.050 <0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1,2,2-1 etracriioroetria	110	<0.050	<0.050	RPD-NA RPD-NA	ug/g	N/A N/A	40	20-AUG-19
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA RPD-NA	ug/g ug/g	N/A N/A	40 40	20-AUG-19 20-AUG-19
1.1-Dichloroethane		<0.050	<0.050	RPD-NA RPD-NA	ug/g ug/g	N/A	40	20-AUG-19 20-AUG-19
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19 20-AUG-19
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19 20-AUG-19
1,2-Dichlorobenzene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dichloroethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	20-AUG-19
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
cis-1,2-Dichloroethylene)	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
cis-1,3-Dichloropropene)	<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Dichlorodifluoromethane	е	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	20-AUG-19



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test Ma	atrix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT So	oil						
Batch R4759541							
WG3136345-4 DUP	WG3136345-			,			
n-Hexane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Methylene Chloride	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
MTBE	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
m+p-Xylenes	<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Methyl Ethyl Ketone	<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-AUG-19
Methyl Isobutyl Ketone	<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-AUG-19
o-Xylene	<0.020	<0.020	RPD-NA	ug/g	N/A	40	20-AUG-19
Styrene	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Tetrachloroethylene	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Toluene	<0.080	<0.080	RPD-NA	ug/g	N/A	40	20-AUG-19
trans-1,2-Dichloroethylene	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
trans-1,3-Dichloropropene	<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Trichloroethylene	<0.010	<0.010	RPD-NA	ug/g	N/A	40	20-AUG-19
Trichlorofluoromethane	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Vinyl chloride	<0.020	<0.020	RPD-NA	ug/g	N/A	40	20-AUG-19
WG3136345-2 LCS							
1,1,1,2-Tetrachloroethane		103.1		%		60-130	20-AUG-19
1,1,2,2-Tetrachloroethane		99.1		%		60-130	20-AUG-19
1,1,1-Trichloroethane		109.3		%		60-130	20-AUG-19
1,1,2-Trichloroethane		98.9		%		60-130	20-AUG-19
1,1-Dichloroethane		93.5		%		60-130	20-AUG-19
1,1-Dichloroethylene		106.9		%		60-130	20-AUG-19
1,2-Dibromoethane		90.2		%		70-130	20-AUG-19
1,2-Dichlorobenzene		101.9		%		70-130	20-AUG-19
1,2-Dichloroethane		105.1		%		60-130	20-AUG-19
1,2-Dichloropropane		108.0		%		70-130	20-AUG-19
1,3-Dichlorobenzene		105.3		%		70-130	20-AUG-19
1,4-Dichlorobenzene		101.7		%		70-130	20-AUG-19
Acetone		99.8		%		60-140	20-AUG-19
Benzene		111.3		%		70-130	20-AUG-19
Bromodichloromethane		102.2		%		50-140	20-AUG-19
Bromoform		90.9		%		70-130	20-AUG-19
Bromomethane		86.6		%		50-140	20-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4759541								
WG3136345-2 LCS			400.0		0/		70.400	
Carbon tetrachloride Chlorobenzene			108.3		%		70-130	20-AUG-19
			104.0		%		70-130	20-AUG-19
Chloroform			102.1		%		70-130	20-AUG-19
cis-1,2-Dichloroethylene			97.6		%		70-130	20-AUG-19
cis-1,3-Dichloropropene			97.8		%		70-130	20-AUG-19
Dibromochloromethane			94.8		%		60-130	20-AUG-19
Dichlorodifluoromethane			70.5		%		50-140	20-AUG-19
Ethylbenzene			105.8		%		70-130	20-AUG-19
n-Hexane			97.8		%		70-130	20-AUG-19
Methylene Chloride			90.0		%		70-130	20-AUG-19
MTBE			100.8		%		70-130	20-AUG-19
m+p-Xylenes			112.8		%		70-130	20-AUG-19
Methyl Ethyl Ketone			82.3		%		60-140	20-AUG-19
Methyl Isobutyl Ketone			91.3		%		60-140	20-AUG-19
o-Xylene			104.2		%		70-130	20-AUG-19
Styrene			100.8		%		70-130	20-AUG-19
Tetrachloroethylene			104.1		%		60-130	20-AUG-19
Toluene			106.5		%		70-130	20-AUG-19
trans-1,2-Dichloroethylen	е		102.1		%		60-130	20-AUG-19
trans-1,3-Dichloropropen	е		92.4		%		70-130	20-AUG-19
Trichloroethylene			104.1		%		60-130	20-AUG-19
Trichlorofluoromethane			91.3		%		50-140	20-AUG-19
Vinyl chloride			109.6		%		60-140	20-AUG-19
WG3136345-1 MB								
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	20-AUG-19
1,1,2,2-Tetrachloroethane	Э		<0.050		ug/g		0.05	20-AUG-19
1,1,1-Trichloroethane			<0.050		ug/g		0.05	20-AUG-19
1,1,2-Trichloroethane			<0.050		ug/g		0.05	20-AUG-19
1,1-Dichloroethane			<0.050		ug/g		0.05	20-AUG-19
1,1-Dichloroethylene			<0.050		ug/g		0.05	20-AUG-19
1,2-Dibromoethane			<0.050		ug/g		0.05	20-AUG-19
1,2-Dichlorobenzene			<0.050		ug/g		0.05	20-AUG-19
1,2-Dichloroethane			<0.050		ug/g		0.05	20-AUG-19
1,2-Dichloropropane			< 0.050		ug/g		0.05	20-AUG-19



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KITCHENER ON N2G 4Y9

OC-511-HS-WT Soil Batch R4759541 WG3136345-1 MB 1,3-Dichlorobenzene			 	
WG3136345-1 MB				
	< 0.050	ug/g	0.05	20-AUG-19
1,4-Dichlorobenzene	< 0.050	ug/g	0.05	20-AUG-19
Acetone	<0.50	ug/g	0.5	20-AUG-19
Benzene	<0.0068	ug/g	0.0068	20-AUG-19
Bromodichloromethane	< 0.050	ug/g	0.05	20-AUG-19
Bromoform	<0.050	ug/g	0.05	20-AUG-19
Bromomethane	<0.050	ug/g	0.05	20-AUG-19
Carbon tetrachloride	<0.050	ug/g	0.05	20-AUG-19
Chlorobenzene	<0.050	ug/g	0.05	20-AUG-19
Chloroform	<0.050	ug/g	0.05	20-AUG-19
cis-1,2-Dichloroethylene	<0.050	ug/g	0.05	20-AUG-19
cis-1,3-Dichloropropene	<0.030	ug/g	0.03	20-AUG-19
Dibromochloromethane	<0.050	ug/g	0.05	20-AUG-19
Dichlorodifluoromethane	<0.050	ug/g	0.05	20-AUG-19
Ethylbenzene	<0.018	ug/g	0.018	20-AUG-19
n-Hexane	<0.050	ug/g	0.05	20-AUG-19
Methylene Chloride	<0.050	ug/g	0.05	20-AUG-19
MTBE	<0.050	ug/g	0.05	20-AUG-19
m+p-Xylenes	< 0.030	ug/g	0.03	20-AUG-19
Methyl Ethyl Ketone	<0.50	ug/g	0.5	20-AUG-19
Methyl Isobutyl Ketone	<0.50	ug/g	0.5	20-AUG-19
o-Xylene	<0.020	ug/g	0.02	20-AUG-19
Styrene	<0.050	ug/g	0.05	20-AUG-19
Tetrachloroethylene	<0.050	ug/g	0.05	20-AUG-19
Toluene	<0.080	ug/g	80.0	20-AUG-19
trans-1,2-Dichloroethylene	<0.050	ug/g	0.05	20-AUG-19
trans-1,3-Dichloropropene	<0.030	ug/g	0.03	20-AUG-19
Trichloroethylene	<0.010	ug/g	0.01	20-AUG-19
Trichlorofluoromethane	<0.050	ug/g	0.05	20-AUG-19
Vinyl chloride	<0.020	ug/g	0.02	20-AUG-19
Surrogate: 1,4-Difluorobenzene	114.3	%	50-140	20-AUG-19
Surrogate: 4-Bromofluorobenzene	85.1	%	50-140	20-AUG-19
WG3136345-5 MS L2329 1,1,1,2-Tetrachloroethane	98.9	%	50-140	20-AUG-19



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R475954	l							
WG3136345-5 MS		L2329664-1	05.4		0/			-
1,1,2,2-Tetrachloroetha	ane		95.4		%		50-140	20-AUG-19
1,1,1-Trichloroethane			103.8		%		50-140	20-AUG-19
1,1,2-Trichloroethane			96.1		%		50-140	20-AUG-19
1,1-Dichloroethane			89.2		%		50-140	20-AUG-19
1,1-Dichloroethylene			102.5		%		50-140	20-AUG-19
1,2-Dibromoethane			88.3		%		50-140	20-AUG-19
1,2-Dichlorobenzene			97.1		%		50-140	20-AUG-19
1,2-Dichloroethane			100.7		%		50-140	20-AUG-19
1,2-Dichloropropane			103.5		%		50-140	20-AUG-19
1,3-Dichlorobenzene			100.2		%		50-140	20-AUG-19
1,4-Dichlorobenzene			96.9		%		50-140	20-AUG-19
Acetone			99.9		%		50-140	20-AUG-19
Benzene			106.7		%		50-140	20-AUG-19
Bromodichloromethane	e		97.4		%		50-140	20-AUG-19
Bromoform			87.4		%		50-140	20-AUG-19
Bromomethane			82.5		%		50-140	20-AUG-19
Carbon tetrachloride			102.6		%		50-140	20-AUG-19
Chlorobenzene			99.3		%		50-140	20-AUG-19
Chloroform			97.0		%		50-140	20-AUG-19
cis-1,2-Dichloroethylen	е		93.7		%		50-140	20-AUG-19
cis-1,3-Dichloropropen	е		91.4		%		50-140	20-AUG-19
Dibromochloromethan	Э		91.7		%		50-140	20-AUG-19
Dichlorodifluoromethar	ne		73.0		%		50-140	20-AUG-19
Ethylbenzene			103.0		%		50-140	20-AUG-19
n-Hexane			95.5		%		50-140	20-AUG-19
Methylene Chloride			85.4		%		50-140	20-AUG-19
MTBE			96.4		%		50-140	20-AUG-19
m+p-Xylenes			107.6		%		50-140	20-AUG-19
Methyl Ethyl Ketone			79.5		%		50-140	20-AUG-19
Methyl Isobutyl Ketone			89.2		%		50-140	20-AUG-19
o-Xylene			102.3		%		50-140	20-AUG-19
Styrene			97.9		%		50-140	20-AUG-19
Tetrachloroethylene			99.5		%		50-140	20-AUG-19



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4759541								
WG3136345-5 MS		L2329664-1	400.0		0/			
Toluene			102.6		%		50-140	20-AUG-19
trans-1,2-Dichloroethyle			96.6 86.9		%		50-140	20-AUG-19
trans-1,3-Dichloroprope Trichloroethylene	ene		99.0		%		50-140	20-AUG-19
Trichlorofluoromethane			88.0		%		50-140 50-140	20-AUG-19
Vinyl chloride	•		109.5		%		50-140	20-AUG-19 20-AUG-19
•			100.0		70		30-140	20-A0G-19
Batch R4759545 WG3136405-4 DUP	1	WG3136405-	3					
1,1,1,2-Tetrachloroetha	ane	< 0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1,2,2-Tetrachloroetha	ane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	20-AUG-19
Bromodichloromethane)	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
cis-1,2-Dichloroethylen	е	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
cis-1,3-Dichloropropend	е	<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Dibromochloromethane	•	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Dichlorodifluoromethan	е	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	20-AUG-19



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Test Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT Soil							
Batch R4759545							
WG3136405-4 DUP	WG3136405-						
n-Hexane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Methylene Chloride	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
MTBE	<0.050	<0.050	RPD-NA	ug/g ,	N/A	40	20-AUG-19
m+p-Xylenes	<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Methyl Ethyl Ketone	<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-AUG-19
Methyl Isobutyl Ketone	<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-AUG-19
o-Xylene	<0.020	<0.020	RPD-NA	ug/g	N/A	40	20-AUG-19
Styrene	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Tetrachloroethylene	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Toluene	<0.080	<0.080	RPD-NA	ug/g	N/A	40	20-AUG-19
trans-1,2-Dichloroethylene	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
trans-1,3-Dichloropropene	<0.030	< 0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Trichloroethylene	<0.010	<0.010	RPD-NA	ug/g	N/A	40	20-AUG-19
Trichlorofluoromethane	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Vinyl chloride	<0.020	<0.020	RPD-NA	ug/g	N/A	40	20-AUG-19
WG3136405-2 LCS							
1,1,1,2-Tetrachloroethane		105.2		%		60-130	20-AUG-19
1,1,2,2-Tetrachloroethane		100.6		%		60-130	20-AUG-19
1,1,1-Trichloroethane		114.2		%		60-130	20-AUG-19
1,1,2-Trichloroethane		100.1		%		60-130	20-AUG-19
1,1-Dichloroethane		97.0		%		60-130	20-AUG-19
1,1-Dichloroethylene		112.1		%		60-130	20-AUG-19
1,2-Dibromoethane		89.9		%		70-130	20-AUG-19
1,2-Dichlorobenzene		103.5		%		70-130	20-AUG-19
1,2-Dichloroethane		107.5		%		60-130	20-AUG-19
1,2-Dichloropropane		110.4		%		70-130	20-AUG-19
1,3-Dichlorobenzene		106.9		%		70-130	20-AUG-19
1,4-Dichlorobenzene		103.6		%		70-130	20-AUG-19
Acetone		102.8		%		60-140	20-AUG-19
Benzene		115.3		%		70-130	20-AUG-19
Bromodichloromethane		104.8		%		50-140	20-AUG-19
Bromoform		91.7		%		70-130	20-AUG-19
Bromomethane		89.6		%		50-140	20-AUG-19



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4759545								
WG3136405-2 LCS			112.4		%		70.400	00 4110 40
Carbon tetrachloride			113.4		%		70-130	20-AUG-19
Chlorobenzene			106.0				70-130	20-AUG-19
Chloroform			106.1		%		70-130	20-AUG-19
cis-1,2-Dichloroethylene			99.6		%		70-130	20-AUG-19
cis-1,3-Dichloropropene			96.3		%		70-130	20-AUG-19
Dibromochloromethane			95.8		%		60-130	20-AUG-19
Dichlorodifluoromethan	е		78.0		%		50-140	20-AUG-19
Ethylbenzene			106.1		%		70-130	20-AUG-19
n-Hexane			103.1		%		70-130	20-AUG-19
Methylene Chloride			93.8		%		70-130	20-AUG-19
MTBE			103.0		%		70-130	20-AUG-19
m+p-Xylenes			115.2		%		70-130	20-AUG-19
Methyl Ethyl Ketone			80.7		%		60-140	20-AUG-19
Methyl Isobutyl Ketone			89.8		%		60-140	20-AUG-19
o-Xylene			105.0		%		70-130	20-AUG-19
Styrene			100.8		%		70-130	20-AUG-19
Tetrachloroethylene			105.7		%		60-130	20-AUG-19
Toluene			108.0		%		70-130	20-AUG-19
trans-1,2-Dichloroethyle	ene		106.0		%		60-130	20-AUG-19
trans-1,3-Dichloroprope	ne		89.5		%		70-130	20-AUG-19
Trichloroethylene			106.5		%		60-130	20-AUG-19
Trichlorofluoromethane			96.7		%		50-140	20-AUG-19
Vinyl chloride			117.4		%		60-140	20-AUG-19
WG3136405-1 MB								
1,1,1,2-Tetrachloroetha			<0.050		ug/g		0.05	20-AUG-19
1,1,2,2-Tetrachloroetha	ne		<0.050		ug/g		0.05	20-AUG-19
1,1,1-Trichloroethane			<0.050		ug/g		0.05	20-AUG-19
1,1,2-Trichloroethane			<0.050		ug/g		0.05	20-AUG-19
1,1-Dichloroethane			<0.050		ug/g		0.05	20-AUG-19
1,1-Dichloroethylene			< 0.050		ug/g		0.05	20-AUG-19
1,2-Dibromoethane			< 0.050		ug/g		0.05	20-AUG-19
1,2-Dichlorobenzene			<0.050		ug/g		0.05	20-AUG-19
1,2-Dichloroethane			<0.050		ug/g		0.05	20-AUG-19
1,2-Dichloropropane			< 0.050		ug/g		0.05	20-AUG-19



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KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4759545								
WG3136405-1 MB 1,3-Dichlorobenzene			-0.0E0		ua/a		0.05	00 4110 40
1,4-Dichlorobenzene			<0.050 <0.050		ug/g		0.05	20-AUG-19
Acetone			<0.050		ug/g		0.05	20-AUG-19
Benzene				MDIOD	ug/g		0.0068	20-AUG-19
Bromodichloromethane			0.0090	MB-LOR	ug/g			20-AUG-19
			<0.050		ug/g		0.05	20-AUG-19
Bromoform Bromomethane			<0.050 <0.050		ug/g		0.05 0.05	20-AUG-19
					ug/g			20-AUG-19
Carbon tetrachloride			<0.050 <0.050		ug/g		0.05	20-AUG-19
Chlorobenzene Chloroform			<0.050		ug/g		0.05 0.05	20-AUG-19
					ug/g			20-AUG-19
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05 0.03	20-AUG-19
cis-1,3-Dichloropropene Dibromochloromethane			<0.030		ug/g			20-AUG-19
			<0.050		ug/g		0.05	20-AUG-19
Dichlorodifluoromethane			<0.050		ug/g		0.05	20-AUG-19
Ethylbenzene			<0.018		ug/g		0.018	20-AUG-19
n-Hexane			<0.050		ug/g		0.05	20-AUG-19
Methylene Chloride			<0.050		ug/g		0.05	20-AUG-19
MTBE			<0.050		ug/g		0.05	20-AUG-19
m+p-Xylenes			<0.030		ug/g		0.03	20-AUG-19
Methyl Ethyl Ketone			<0.50		ug/g		0.5	20-AUG-19
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	20-AUG-19
o-Xylene			<0.020		ug/g		0.02	20-AUG-19
Styrene			<0.050		ug/g ,		0.05	20-AUG-19
Tetrachloroethylene			<0.050		ug/g		0.05	20-AUG-19
Toluene			<0.080		ug/g		0.08	20-AUG-19
trans-1,2-Dichloroethylen			<0.050		ug/g		0.05	20-AUG-19
trans-1,3-Dichloropropen	ie		<0.030		ug/g		0.03	20-AUG-19
Trichloroethylene			<0.010		ug/g		0.01	20-AUG-19
Trichlorofluoromethane			<0.050		ug/g		0.05	20-AUG-19
Vinyl chloride			<0.020		ug/g		0.02	20-AUG-19
Surrogate: 1,4-Difluorobe			106.7		%		50-140	20-AUG-19
Surrogate: 4-Bromofluoro	obenzene		78.9		%		50-140	20-AUG-19
WG3136405-5 MS 1,1,1,2-Tetrachloroethan	e	L2328105-3	113.2		%		50-140	20-AUG-19



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

1,1,1-Trichloroethane 119,1 % 50-140 20-AUG 1,1,2-Trichloroethane 113,9 % 50-140 20-AUG 1,1-Dichloroethane 104,5 % 50-140 20-AUG 1,1-Dichloroethylene 114,4 % 50-140 20-AUG 1,2-Dibromoethane 102,9 % 50-140 20-AUG 1,2-Dichlorobenzene 108,5 % 50-140 20-AUG 1,2-Dichloroethane 122,6 % 50-140 20-AUG 1,2-Dichloropropane 122,3 % 50-140 20-AUG 1,2-Dichloropropane 122,3 % 50-140 20-AUG 1,3-Dichlorobenzene 107,7 % 50-140 20-AUG Acetone 124,7 % 50-140 20-AUG Bernzene 123,3 % 50-140 20-AUG Bromodichloromethane 117,4 % 50-140 20-AUG Bromomethane 92,7 % 50-140 20-AUG Chlorobe	Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
WG3136405-5 MS	VOC-511-HS-WT	Soil							
1.1,2,2-Tetrachloroethane 119.6 % 50-140 20-AUG 1.1,1-Trichloroethane 119.1 % 50-140 20-AUG 1.1,2-Trichloroethane 113.9 % 50-140 20-AUG 1.1-Dichloroethane 104.5 % 50-140 20-AUG 1.1-Dichloroethylene 114.4 % 50-140 20-AUG 1.2-Dichloroethane 102.9 % 50-140 20-AUG 1.2-Dichlorobenzene 108.5 % 50-140 20-AUG 1.2-Dichloroperbane 122.6 % 50-140 20-AUG 1.2-Dichloroperpane 122.3 % 50-140 20-AUG 1.2-Dichloroperpane 122.3 % 50-140 20-AUG 1.3-Dichlorobenzene 107.7 % 50-140 20-AUG 1.4-Dichlorobenzene 104.2 % 50-140 20-AUG 1.4-Dichlorobenzene 117.4 % 50-140 20-AUG Benzene 123.3 % 50-140 20-AUG Bromodichloromethane 117.4 % 50-140 20-AUG </th <th>Batch R475954</th> <th>5</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	Batch R475954	5							
1.1,1-Trichloroethane 119.1 % 50-140 20-AUG 1,1,2-Trichloroethane 113.9 % 50-140 20-AUG 1,1-Dichloroethane 104.5 % 50-140 20-AUG 1,1-Dichloroethylene 114.4 % 50-140 20-AUG 1,2-Dichlorobentane 102.9 % 50-140 20-AUG 1,2-Dichloroethane 122.6 % 50-140 20-AUG 1,2-Dichloroethane 122.3 % 50-140 20-AUG 1,2-Dichloropane 122.3 % 50-140 20-AUG 1,3-Dichlorobenzene 107.7 % 50-140 20-AUG 1,4-Dichlorobenzene 104.2 % 50-140 20-AUG Acetone 124.7 % 50-140 20-AUG Bernzene 123.3 % 50-140 20-AUG Bromodichloromethane 117.4 % 50-140 20-AUG Bromomethane 117.3 % 50-140 20-AUG Chloroben			L2328105-3						
1,1,2-Trichloroethane 113.9 % 50-140 20-AUG 1,1-Dichloroethane 104.5 % 50-140 20-AUG 1,1-Dichloroethylene 114.4 % 50-140 20-AUG 1,2-Dibromoethane 102.9 % 50-140 20-AUG 1,2-Dichlorobenzene 108.5 % 50-140 20-AUG 1,2-Dichloroethylene 122.6 % 50-140 20-AUG 1,2-Dichloropenane 122.3 % 50-140 20-AUG 1,2-Dichloropenane 122.3 % 50-140 20-AUG 1,2-Dichlorobenzene 107.7 % 50-140 20-AUG 1,3-Dichlorobenzene 107.7 % 50-140 20-AUG 1,3-Dichlorobenzene 104.2 % 50-140 20-AUG 1,3-Dichlorobenzene 104.2 % 50-140 20-AUG 1,4-Dichlorobenzene 124.7 % 50-140 20-AUG 1,4-Dichlorobenzene 124.7 % 50-140 20-AUG 1,4-Dichlorobenzene 123.3 % 50-140 20-AUG 1,4-Dichlorobenzene 123.3 % 50-140 20-AUG 1,4-Dichlorobenzene 123.3 % 50-140 20-AUG 1,4-Dichlorobenzene 123.3 % 50-140 20-AUG 1,4-Dichlorobenzene 117.4 % 50-140 20-AUG 1,4-Dichlorobenzene 117.4 % 50-140 20-AUG 1,4-Dichlorobenzene 117.4 % 50-140 20-AUG 1,4-Dichlorobenzene 117.4 % 50-140 20-AUG 1,4-Dichlorobenzene 117.3 % 50-140 20-AUG 1,4-Dichlorobenzene 117.3 % 50-140 20-AUG 1,4-Dichlorobenzene 111.1 % 50-140 20-AUG 1,4-Dichlorobenzene 111.1 % 50-140 20-AUG 1,3-Dichlorobenzene 104.2 % 50-140 20-AUG 1,3-Dichlorobenzene 104.2 % 50-140 20-AUG 1,3-Dichlorobenzene 104.2 % 50-140 20-AUG 1,3-Dichlorobenzene 104.2 % 50-140 20-AUG 1,3-Dichlorobenzene 104.2 % 50-140 20-AUG 1,3-Dichlorobenzene 104.2 % 50-140 20-AUG 1,3-Dichlorobenzene 104.2 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-140 20-AUG 1,3-Dichlorobenzene 106.5 % 50-		nane							20-AUG-19
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1,2-Dichloroethane 122.6 % 50-140 20-AUG 1,2-Dichloropropane 122.3 % 50-140 20-AUG 1,3-Dichlorobenzene 107.7 % 50-140 20-AUG 1,4-Dichlorobenzene 104.2 % 50-140 20-AUG Acetone 124.7 % 50-140 20-AUG Benzene 123.3 % 50-140 20-AUG Bromodichloromethane 117.4 % 50-140 20-AUG Bromoform 106.3 % 50-140 20-AUG Bromomethane 92.7 % 50-140 20-AUG Carbon tetrachloride 117.3 % 50-140 20-AUG Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG Cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Ethylbenzene	1,2-Dibromoethane			102.9		%		50-140	20-AUG-19
1,2-Dichloropropane 122.3 % 50-140 20-AUG 1,3-Dichlorobenzene 107.7 % 50-140 20-AUG 1,4-Dichlorobenzene 104.2 % 50-140 20-AUG Acetone 124.7 % 50-140 20-AUG Benzene 123.3 % 50-140 20-AUG Bromodichloromethane 117.4 % 50-140 20-AUG Bromoform 106.3 % 50-140 20-AUG Bromomethane 92.7 % 50-140 20-AUG Carbon tetrachloride 117.3 % 50-140 20-AUG Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101	1,2-Dichlorobenzene			108.5		%		50-140	20-AUG-19
1,3-Dichlorobenzene 107.7 % 50-140 20-AUG 1,4-Dichlorobenzene 104.2 % 50-140 20-AUG Acetone 124.7 % 50-140 20-AUG Benzene 123.3 % 50-140 20-AUG Bromodichloromethane 117.4 % 50-140 20-AUG Bromoform 106.3 % 50-140 20-AUG Bromomethane 92.7 % 50-140 20-AUG Carbon tetrachloride 117.3 % 50-140 20-AUG Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane	1,2-Dichloroethane			122.6		%		50-140	20-AUG-19
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Acetone 124.7 % 50-140 20-AUG Benzene 123.3 % 50-140 20-AUG Bromodichloromethane 117.4 % 50-140 20-AUG Bromoform 106.3 % 50-140 20-AUG Bromomethane 92.7 % 50-140 20-AUG Carbon tetrachloride 117.3 % 50-140 20-AUG Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG MtBE 108.1 % 50-140 20-AUG Methyl Ethyl Ketone 19.5	1,3-Dichlorobenzene			107.7		%		50-140	20-AUG-19
Benzene 123.3 % 50-140 20-AUG Bromodichloromethane 117.4 % 50-140 20-AUG Bromoform 106.3 % 50-140 20-AUG Bromomethane 92.7 % 50-140 20-AUG Carbon tetrachloride 117.3 % 50-140 20-AUG Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG Cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Mttylene Chloride 102.4 % 50-140 20-AUG Mttylene Chloride	1,4-Dichlorobenzene			104.2		%		50-140	20-AUG-19
Bromodichloromethane 117.4 % 50-140 20-AUG Bromoform 106.3 % 50-140 20-AUG Bromomethane 92.7 % 50-140 20-AUG Carbon tetrachloride 117.3 % 50-140 20-AUG Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG M** 50-140 20-AUG 50-140 20-AUG Methyl Ethyl Ketone	Acetone			124.7		%		50-140	20-AUG-19
Bromoform 106.3 % 50-140 20-AUG Bromomethane 92.7 % 50-140 20-AUG Carbon tetrachloride 117.3 % 50-140 20-AUG Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG MtP-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG O-Xylene 107.3 % 50-140 20-AUG	Benzene			123.3		%		50-140	20-AUG-19
Bromomethane 92.7 % 50-140 20-AUG Carbon tetrachloride 117.3 % 50-140 20-AUG Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG O-Xylene 107.3 % 50-140 20-AUG	Bromodichloromethan	ne		117.4		%		50-140	20-AUG-19
Carbon tetrachloride 117.3 % 50-140 20-AUG Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG O-Xylene 107.3 % 50-140 20-AUG	Bromoform			106.3		%		50-140	20-AUG-19
Chlorobenzene 111.1 % 50-140 20-AUG Chloroform 116.0 % 50-140 20-AUG cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	Bromomethane			92.7		%		50-140	20-AUG-19
Chloroform 116.0 % 50-140 20-AUG cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG o-Xylene	Carbon tetrachloride			117.3		%		50-140	20-AUG-19
cis-1,2-Dichloroethylene 107.3 % 50-140 20-AUG cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	Chlorobenzene			111.1		%		50-140	20-AUG-19
cis-1,3-Dichloropropene 104.2 % 50-140 20-AUG Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	Chloroform			116.0		%		50-140	20-AUG-19
Dibromochloromethane 108.1 % 50-140 20-AUG Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	cis-1,2-Dichloroethyle	ne		107.3		%		50-140	20-AUG-19
Dichlorodifluoromethane 69.6 % 50-140 20-AUG Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	cis-1,3-Dichloroproper	ne		104.2		%		50-140	20-AUG-19
Ethylbenzene 106.5 % 50-140 20-AUG n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	Dibromochloromethar	ne		108.1		%		50-140	20-AUG-19
n-Hexane 101.6 % 50-140 20-AUG Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	Dichlorodifluorometha	ine		69.6		%		50-140	20-AUG-19
Methylene Chloride 102.4 % 50-140 20-AUG MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	Ethylbenzene			106.5		%		50-140	20-AUG-19
MTBE 108.1 % 50-140 20-AUG m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	n-Hexane			101.6		%		50-140	20-AUG-19
m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	Methylene Chloride			102.4		%		50-140	20-AUG-19
m+p-Xylenes 115.4 % 50-140 20-AUG Methyl Ethyl Ketone 99.5 % 50-140 20-AUG Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	MTBE			108.1		%		50-140	20-AUG-19
Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	m+p-Xylenes			115.4		%		50-140	20-AUG-19
Methyl Isobutyl Ketone 112.8 % 50-140 20-AUG o-Xylene 107.3 % 50-140 20-AUG	Methyl Ethyl Ketone			99.5		%		50-140	20-AUG-19
o-Xylene 107.3 % 50-140 20-AUG	Methyl Isobutyl Ketone	е		112.8		%			20-AUG-19
	o-Xylene			107.3		%			20-AUG-19
20700	Styrene			104.4		%		50-140	20-AUG-19
	Tetrachloroethylene			103.4		%		50-140	20-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4759	545							
WG3136405-5 MS	S	L2328105-3	440.7		0/			
Toluene	day dama		110.7		%		50-140	20-AUG-19
trans-1,2-Dichloroet			108.8		%		50-140	20-AUG-19
trans-1,3-Dichloropr	opene		96.4		%		50-140	20-AUG-19
Trichloroethylene Trichlorofluorometh	000		109.9 96.9		%		50-140	20-AUG-19
Vinyl chloride	ane				%		50-140	20-AUG-19
•			115.3		/0		50-140	20-AUG-19
Batch R4759		W02426420	•					
WG3136428-4 DL 1,1,1,2-Tetrachloroe		WG3136428- <0.050	s <0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1,2,2-Tetrachloroe	ethane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1,1-Trichloroethar	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1,2-Trichloroethar	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,1-Dichloroethylene	Э	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dichlorobenzen	е	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dichloroethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,2-Dichloropropane	e	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,3-Dichlorobenzen	е	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
1,4-Dichlorobenzen	е	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	20-AUG-19
Bromodichlorometh	ane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Carbon tetrachloride	Э	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
cis-1,2-Dichloroethy	lene	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
cis-1,3-Dichloroprop	pene	<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Dibromochlorometh	ane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Dichlorodifluoromet	hane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	20-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R475963	7							
WG3136428-4 DUP		WG3136428-			,			
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-AUG-19
Methyl Isobutyl Ketone)	<0.50	<0.50	RPD-NA	ug/g	N/A	40	20-AUG-19
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	20-AUG-19
Styrene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Tetrachloroethylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	20-AUG-19
trans-1,2-Dichloroethy	lene	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
trans-1,3-Dichloroprop	ene	<0.030	< 0.030	RPD-NA	ug/g	N/A	40	20-AUG-19
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	20-AUG-19
Trichlorofluoromethan	е	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	20-AUG-19
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	20-AUG-19
WG3136428-2 LCS								
1,1,1,2-Tetrachloroeth	ane		97.4		%		60-130	20-AUG-19
1,1,2,2-Tetrachloroeth	ane		76.4		%		60-130	20-AUG-19
1,1,1-Trichloroethane			97.7		%		60-130	20-AUG-19
1,1,2-Trichloroethane			89.6		%		60-130	20-AUG-19
1,1-Dichloroethane			91.3		%		60-130	20-AUG-19
1,1-Dichloroethylene			90.7		%		60-130	20-AUG-19
1,2-Dibromoethane			87.1		%		70-130	20-AUG-19
1,2-Dichlorobenzene			97.2		%		70-130	20-AUG-19
1,2-Dichloroethane			84.2		%		60-130	20-AUG-19
1,2-Dichloropropane			88.8		%		70-130	20-AUG-19
1,3-Dichlorobenzene			103.5		%		70-130	20-AUG-19
1,4-Dichlorobenzene			102.7		%		70-130	20-AUG-19
Acetone			73.5		%		60-140	20-AUG-19
Benzene			97.5		%		70-130	20-AUG-19
Bromodichloromethan	е		87.1		%		50-140	20-AUG-19
Bromoform			86.7		%		70-130	20-AUG-19
Bromomethane			85.6		%			



1,1,1,2-Tetrachloroethane

1.1.2.2-Tetrachloroethane

1,1,1-Trichloroethane

1,1,2-Trichloroethane

1,1-Dichloroethane

1,1-Dichloroethylene

1,2-Dibromoethane

1,2-Dichlorobenzene

1,2-Dichloroethane

1,2-Dichloropropane

Contact:

Quality Control Report

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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9 ANDREW VERMEERSCH

Test Matrix Reference Result Qualifier Units **RPD** Limit Analyzed VOC-511-HS-WT Soil R4759637 Batch WG3136428-2 LCS Carbon tetrachloride 104.5 % 70-130 20-AUG-19 Chlorobenzene 93.6 % 70-130 20-AUG-19 Chloroform 93.8 % 70-130 20-AUG-19 cis-1,2-Dichloroethylene 96.1 % 20-AUG-19 70-130 cis-1,3-Dichloropropene % 91.2 70-130 20-AUG-19 Dibromochloromethane 90.7 % 60-130 20-AUG-19 Dichlorodifluoromethane 68.3 % 20-AUG-19 50-140 Ethylbenzene 99.0 % 70-130 20-AUG-19 n-Hexane 88.2 % 70-130 20-AUG-19 Methylene Chloride 88.7 % 70-130 20-AUG-19 **MTBE** 96.5 % 70-130 20-AUG-19 m+p-Xylenes 97.5 % 70-130 20-AUG-19 Methyl Ethyl Ketone 72.7 % 60-140 20-AUG-19 Methyl Isobutyl Ketone 64.8 % 60-140 20-AUG-19 o-Xylene 96.4 % 70-130 20-AUG-19 Styrene 94.1 % 70-130 20-AUG-19 Tetrachloroethylene 108.4 % 60-130 20-AUG-19 Toluene 95.2 % 70-130 20-AUG-19 92.0 trans-1,2-Dichloroethylene % 60-130 20-AUG-19 trans-1,3-Dichloropropene 91.8 % 70-130 20-AUG-19 Trichloroethylene 104.5 % 60-130 20-AUG-19 Trichlorofluoromethane 97.9 % 50-140 20-AUG-19 Vinyl chloride 96.4 % 60-140 20-AUG-19 WG3136428-1 MB

ug/g

ug/g

ug/g

ug/g

ug/g

ug/g

ug/g

ug/g

ug/g

ug/g

0.05

0.05

0.05

0.05

0.05

0.05

0.05

0.05

0.05

0.05

20-AUG-19

20-AUG-19

20-AUG-19

20-AUG-19

20-AUG-19

20-AUG-19

20-AUG-19

20-AUG-19

20-AUG-19

20-AUG-19

< 0.050

< 0.050

< 0.050

< 0.050

< 0.050

< 0.050

< 0.050

< 0.050

< 0.050

< 0.050



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4759637								
WG3136428-1 MB 1,3-Dichlorobenzene			<0.050		ug/g		0.05	20-AUG-19
1,4-Dichlorobenzene			<0.050		ug/g		0.05	20-AUG-19 20-AUG-19
Acetone			<0.50		ug/g		0.5	20-AUG-19 20-AUG-19
Benzene			<0.0068		ug/g		0.0068	20-AUG-19
Bromodichloromethane			<0.050		ug/g		0.05	20-AUG-19
Bromoform			<0.050		ug/g		0.05	20-AUG-19
Bromomethane			<0.050		ug/g		0.05	20-AUG-19
Carbon tetrachloride			<0.050		ug/g		0.05	20-AUG-19
Chlorobenzene			<0.050		ug/g		0.05	20-AUG-19
Chloroform			<0.050		ug/g		0.05	20-AUG-19
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	20-AUG-19
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	20-AUG-19
Dibromochloromethane			<0.050		ug/g		0.05	20-AUG-19
Dichlorodifluoromethane			<0.050		ug/g		0.05	20-AUG-19
Ethylbenzene			<0.018		ug/g		0.018	20-AUG-19
n-Hexane			<0.050		ug/g		0.05	20-AUG-19
Methylene Chloride			<0.050		ug/g		0.05	20-AUG-19
MTBE			<0.050		ug/g		0.05	20-AUG-19
m+p-Xylenes			< 0.030		ug/g		0.03	20-AUG-19
Methyl Ethyl Ketone			<0.50		ug/g		0.5	20-AUG-19
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	20-AUG-19
o-Xylene			<0.020		ug/g		0.02	20-AUG-19
Styrene			<0.050		ug/g		0.05	20-AUG-19
Tetrachloroethylene			<0.050		ug/g		0.05	20-AUG-19
Toluene			<0.080		ug/g		0.08	20-AUG-19
trans-1,2-Dichloroethylene	Э		<0.050		ug/g		0.05	20-AUG-19
trans-1,3-Dichloropropene	e		<0.030		ug/g		0.03	20-AUG-19
Trichloroethylene			<0.010		ug/g		0.01	20-AUG-19
Trichlorofluoromethane			< 0.050		ug/g		0.05	20-AUG-19
Vinyl chloride			<0.020		ug/g		0.02	20-AUG-19
Surrogate: 1,4-Difluorober	nzene		111.2		%		50-140	20-AUG-19
Surrogate: 4-Bromofluoro	benzene		95.7		%		50-140	20-AUG-19
WG3136428-5 MS 1,1,1,2-Tetrachloroethane	•	L2328062-17	99.3		%		50-140	20-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4759637								
WG3136428-5 MS		L2328062-17	05.0		0/		50.440	
1,1,2,2-Tetrachloroetha	ne		95.6		%		50-140	20-AUG-19
1,1,1-Trichloroethane			89.9		%		50-140	20-AUG-19
1,1,2-Trichloroethane			106.9		%		50-140	20-AUG-19
1,1-Dichloroethane			92.1		%		50-140	20-AUG-19
1,1-Dichloroethylene			81.6		%		50-140	20-AUG-19
1,2-Dibromoethane			109.2		%		50-140	20-AUG-19
1,2-Dichlorobenzene			96.9		%		50-140	20-AUG-19
1,2-Dichloroethane			104.3		%		50-140	20-AUG-19
1,2-Dichloropropane			99.1		%		50-140	20-AUG-19
1,3-Dichlorobenzene			94.1		%		50-140	20-AUG-19
1,4-Dichlorobenzene			95.6		%		50-140	20-AUG-19
Acetone			101.6		%		50-140	20-AUG-19
Benzene			98.7		%		50-140	20-AUG-19
Bromodichloromethane			97.4		%		50-140	20-AUG-19
Bromoform			107.5		%		50-140	20-AUG-19
Bromomethane			86.3		%		50-140	20-AUG-19
Carbon tetrachloride			93.0		%		50-140	20-AUG-19
Chlorobenzene			92.1		%		50-140	20-AUG-19
Chloroform			96.7		%		50-140	20-AUG-19
cis-1,2-Dichloroethylene	e		99.5		%		50-140	20-AUG-19
cis-1,3-Dichloropropene)		105.2		%		50-140	20-AUG-19
Dibromochloromethane			103.8		%		50-140	20-AUG-19
Dichlorodifluoromethane	е		65.3		%		50-140	20-AUG-19
Ethylbenzene			88.0		%		50-140	20-AUG-19
n-Hexane			76.7		%		50-140	20-AUG-19
Methylene Chloride			97.7		%		50-140	20-AUG-19
MTBE			95.3		%		50-140	20-AUG-19
m+p-Xylenes			86.4		%		50-140	20-AUG-19
Methyl Ethyl Ketone			112.0		%		50-140	20-AUG-19
Methyl Isobutyl Ketone			106.0		%		50-140	20-AUG-19
o-Xylene			90.0		%		50-140	20-AUG-19
Styrene			94.1		%		50-140	20-AUG-19
Tetrachloroethylene			90.8		%		50-140	20-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4759637	,							
WG3136428-5 MS		L2328062-17	07.7		0/			
Toluene	•••		87.7		%		50-140	20-AUG-19
trans-1,2-Dichloroethyl			86.8		%		50-140	20-AUG-19
trans-1,3-Dichloroprop	ene		105.4		%		50-140	20-AUG-19
Trichloroethylene Trichlorofluoromethane			100.8		%		50-140	20-AUG-19
)		86.5				50-140	20-AUG-19
Vinyl chloride			89.0		%		50-140	20-AUG-19
Batch R4761934 WG3136529-4 DUP	l .	WG3136529-	2					
1,1,1,2-Tetrachloroetha	ane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1,2,2-Tetrachloroetha	ane	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1,1-Trichloroethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1,2-Trichloroethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1-Dichloroethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1-Dichloroethylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,2-Dibromoethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	21-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	21-AUG-19
Bromodichloromethane	e	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
cis-1,2-Dichloroethylen	е	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
cis-1,3-Dichloropropen	е	<0.030	< 0.030	RPD-NA	ug/g	N/A	40	21-AUG-19
Dibromochloromethane	e	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Dichlorodifluoromethar	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	21-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R476193	4							
WG3136529-4 DUP		WG3136529-						-
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	21-AUG-19
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	21-AUG-19
Methyl Isobutyl Ketone	9	<0.50	<0.50	RPD-NA	ug/g	N/A	40	21-AUG-19
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	21-AUG-19
Styrene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	21-AUG-19
trans-1,2-Dichloroethy	lene	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
trans-1,3-Dichloroprop	ene	<0.030	< 0.030	RPD-NA	ug/g	N/A	40	21-AUG-19
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	21-AUG-19
Trichlorofluoromethan	е	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	21-AUG-19
WG3136529-2 LCS								
1,1,1,2-Tetrachloroeth			112.1		%		60-130	21-AUG-19
1,1,2,2-Tetrachloroeth	ane		110.5		%		60-130	21-AUG-19
1,1,1-Trichloroethane			120.6		%		60-130	21-AUG-19
1,1,2-Trichloroethane			109.5		%		60-130	21-AUG-19
1,1-Dichloroethane			103.4		%		60-130	21-AUG-19
1,1-Dichloroethylene			118.5		%		60-130	21-AUG-19
1,2-Dibromoethane			99.5		%		70-130	21-AUG-19
1,2-Dichlorobenzene			109.1		%		70-130	21-AUG-19
1,2-Dichloroethane			118.5		%		60-130	21-AUG-19
1,2-Dichloropropane			120.4		%		70-130	21-AUG-19
1,3-Dichlorobenzene			113.6		%		70-130	21-AUG-19
1,4-Dichlorobenzene			109.0		%		70-130	21-AUG-19
Acetone			112.5		%		60-140	21-AUG-19
Benzene			123.6		%		70-130	21-AUG-19
Bromodichloromethan	е		114.2		%		50-140	21-AUG-19
Bromoform			100.8		%		70-130	21-AUG-19
Bromomethane			97.6		%		50-140	21-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4761934								
WG3136529-2 LCS Carbon tetrachloride			440.0		0/		70.400	
Carbon tetrachioride Chlorobenzene			119.0		%		70-130	21-AUG-19
			113.2				70-130	21-AUG-19
Chloroform			114.3		%		70-130	21-AUG-19
cis-1,2-Dichloroethylene			108.2		%		70-130	21-AUG-19
cis-1,3-Dichloropropene			110.1		%		70-130	21-AUG-19
Dibromochloromethane			104.5		%		60-130	21-AUG-19
Dichlorodifluoromethane			78.1		%		50-140	21-AUG-19
Ethylbenzene			112.9		%		70-130	21-AUG-19
n-Hexane			108.1		%		70-130	21-AUG-19
Methylene Chloride			101.2		%		70-130	21-AUG-19
MTBE			107.0		%		70-130	21-AUG-19
m+p-Xylenes			121.5		%		70-130	21-AUG-19
Methyl Ethyl Ketone			93.2		%		60-140	21-AUG-19
Methyl Isobutyl Ketone			102.4		%		60-140	21-AUG-19
o-Xylene			111.7		%		70-130	21-AUG-19
Styrene			108.2		%		70-130	21-AUG-19
Tetrachloroethylene			112.0		%		60-130	21-AUG-19
Toluene			114.9		%		70-130	21-AUG-19
trans-1,2-Dichloroethyler	ne		113.3		%		60-130	21-AUG-19
trans-1,3-Dichloroproper	ne		103.3		%		70-130	21-AUG-19
Trichloroethylene			114.0		%		60-130	21-AUG-19
Trichlorofluoromethane			100.9		%		50-140	21-AUG-19
Vinyl chloride			121.5		%		60-140	21-AUG-19
WG3136529-1 MB								
1,1,1,2-Tetrachloroethan			<0.050		ug/g		0.05	21-AUG-19
1,1,2,2-Tetrachloroethan	e		< 0.050		ug/g		0.05	21-AUG-19
1,1,1-Trichloroethane			<0.050		ug/g		0.05	21-AUG-19
1,1,2-Trichloroethane			<0.050		ug/g		0.05	21-AUG-19
1,1-Dichloroethane			< 0.050		ug/g		0.05	21-AUG-19
1,1-Dichloroethylene			< 0.050		ug/g		0.05	21-AUG-19
1,2-Dibromoethane			<0.050		ug/g		0.05	21-AUG-19
1,2-Dichlorobenzene			< 0.050		ug/g		0.05	21-AUG-19
1,2-Dichloroethane			< 0.050		ug/g		0.05	21-AUG-19
1,2-Dichloropropane			< 0.050		ug/g		0.05	21-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test N	Vlatrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4761934								
WG3136529-1 MB 1,3-Dichlorobenzene			<0.050		ug/g		0.05	24 ALIC 40
1,4-Dichlorobenzene			<0.050		ug/g ug/g		0.05	21-AUG-19 21-AUG-19
Acetone			<0.50		ug/g ug/g		0.5	21-AUG-19 21-AUG-19
Benzene			<0.0068		ug/g ug/g		0.0068	21-AUG-19 21-AUG-19
Bromodichloromethane			<0.050		ug/g ug/g		0.05	21-AUG-19 21-AUG-19
Bromoform			<0.050		ug/g ug/g		0.05	21-AUG-19 21-AUG-19
Bromomethane			<0.050		ug/g ug/g		0.05	21-AUG-19 21-AUG-19
Carbon tetrachloride			<0.050		ug/g ug/g		0.05	21-AUG-19 21-AUG-19
Chlorobenzene			<0.050		ug/g ug/g		0.05	21-AUG-19 21-AUG-19
Chloroform			<0.050		ug/g ug/g		0.05	21-AUG-19 21-AUG-19
cis-1,2-Dichloroethylene			<0.050		ug/g ug/g		0.05	21-AUG-19 21-AUG-19
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	21-AUG-19 21-AUG-19
Dibromochloromethane			<0.050		ug/g		0.05	21-AUG-19 21-AUG-19
Dichlorodifluoromethane			<0.050		ug/g		0.05	21-AUG-19 21-AUG-19
Ethylbenzene			<0.018		ug/g		0.018	21-AUG-19
n-Hexane			<0.050		ug/g		0.05	21-AUG-19
Methylene Chloride			<0.050		ug/g		0.05	21-AUG-19
MTBE			<0.050		ug/g		0.05	21-AUG-19
m+p-Xylenes			<0.030		ug/g		0.03	21-AUG-19
Methyl Ethyl Ketone			<0.50		ug/g		0.5	21-AUG-19
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	21-AUG-19
o-Xylene			<0.020		ug/g		0.02	21-AUG-19
Styrene			< 0.050		ug/g		0.05	21-AUG-19
Tetrachloroethylene			<0.050		ug/g		0.05	21-AUG-19
Toluene			<0.080		ug/g		0.08	21-AUG-19
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	21-AUG-19
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	21-AUG-19
Trichloroethylene			<0.010		ug/g		0.01	21-AUG-19
Trichlorofluoromethane			<0.050		ug/g		0.05	21-AUG-19
Vinyl chloride			<0.020		ug/g		0.02	21-AUG-19
Surrogate: 1,4-Difluoroben	zene		111.0		%		50-140	21-AUG-19
Surrogate: 4-Bromofluorob	enzene		81.3		%		50-140	21-AUG-19
WG3136529-5 MS		L2328062-16						
1,1,1,2-Tetrachloroethane			103.8		%		50-140	21-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

				Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4761934	ļ							
WG3136529-5 MS		L2328062-16						
1,1,2,2-Tetrachloroetha	ane		100.2		%		50-140	21-AUG-19
1,1,1-Trichloroethane			113.1		%		50-140	21-AUG-19
1,1,2-Trichloroethane			100.9		%		50-140	21-AUG-19
1,1-Dichloroethane			101.7		%		50-140	21-AUG-19
1,1-Dichloroethylene			112.3		%		50-140	21-AUG-19
1,2-Dibromoethane			91.5		%		50-140	21-AUG-19
1,2-Dichlorobenzene			101.2		%		50-140	21-AUG-19
1,2-Dichloroethane			109.7		%		50-140	21-AUG-19
1,2-Dichloropropane			111.3		%		50-140	21-AUG-19
1,3-Dichlorobenzene			105.3		%		50-140	21-AUG-19
1,4-Dichlorobenzene			100.7		%		50-140	21-AUG-19
Acetone			111.0		%		50-140	21-AUG-19
Benzene			114.3		%		50-140	21-AUG-19
Bromodichloromethane)		105.0		%		50-140	21-AUG-19
Bromoform			91.2		%		50-140	21-AUG-19
Bromomethane			89.9		%		50-140	21-AUG-19
Carbon tetrachloride			111.9		%		50-140	21-AUG-19
Chlorobenzene			104.3		%		50-140	21-AUG-19
Chloroform			105.9		%		50-140	21-AUG-19
cis-1,2-Dichloroethylen	е		100.0		%		50-140	21-AUG-19
cis-1,3-Dichloropropend	е		96.1		%		50-140	21-AUG-19
Dibromochloromethane	Э		95.9		%		50-140	21-AUG-19
Dichlorodifluoromethan	ie		83.4		%		50-140	21-AUG-19
Ethylbenzene			102.7		%		50-140	21-AUG-19
n-Hexane			104.0		%		50-140	21-AUG-19
Methylene Chloride			93.9		%		50-140	21-AUG-19
MTBE			99.9		%		50-140	21-AUG-19
m+p-Xylenes			111.3		%		50-140	21-AUG-19
Methyl Ethyl Ketone			85.4		%		50-140	21-AUG-19
Methyl Isobutyl Ketone			92.1		%		50-140	21-AUG-19
o-Xylene			101.3		%		50-140	21-AUG-19
Styrene			97.5		%		50-140	21-AUG-19
Tetrachloroethylene			103.3		%		50-140	21-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: ANDREW VERMEERSCH

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4761	934							
WG3136529-5 MS	S	L2328062-16	1010		0/			
Toluene	day dama		104.8		%		50-140	21-AUG-19
trans-1,2-Dichloroet			105.3		%		50-140	21-AUG-19
trans-1,3-Dichloropr	opene		89.9		%		50-140	21-AUG-19
Trichloroethylene Trichlorofluorometh	000		104.9		%		50-140	21-AUG-19
Vinyl chloride	ane		96.4		%		50-140	21-AUG-19
•			118.0		/0		50-140	21-AUG-19
Batch R4762 WG3137504-4 DU		W02427504	•					
1,1,1,2-Tetrachloroe		WG3137504- <0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1,2,2-Tetrachloroe	ethane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1,1-Trichloroethar	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1,2-Trichloroethar	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,1-Dichloroethylene	Э	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,2-Dibromoethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,2-Dichlorobenzen	е	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,2-Dichloropropane	Э	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,3-Dichlorobenzen	е	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
1,4-Dichlorobenzen	е	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	21-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	21-AUG-19
Bromodichlorometh	ane	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Bromoform		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Bromomethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Carbon tetrachloride	e	< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Chlorobenzene		< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
cis-1,2-Dichloroethy	lene	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
cis-1,3-Dichloroprop	ene	<0.030	< 0.030	RPD-NA	ug/g	N/A	40	21-AUG-19
Dibromochlorometh	ane	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Dichlorodifluoromet	hane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	21-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: ANDREW VERMEERSCH

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4762112								
WG3137504-4 DUP		WG3137504-3			,			
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	21-AUG-19
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	21-AUG-19
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	21-AUG-19
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	21-AUG-19
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	21-AUG-19
trans-1,2-Dichloroethyler	ne	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
trans-1,3-Dichloroproper	ne	<0.030	< 0.030	RPD-NA	ug/g	N/A	40	21-AUG-19
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	21-AUG-19
Trichlorofluoromethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	21-AUG-19
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	21-AUG-19
WG3137504-2 LCS								
1,1,1,2-Tetrachloroethan	е		102.4		%		60-130	21-AUG-19
1,1,2,2-Tetrachloroethan	е		112.6		%		60-130	21-AUG-19
1,1,1-Trichloroethane			99.5		%		60-130	21-AUG-19
1,1,2-Trichloroethane			108.2		%		60-130	21-AUG-19
1,1-Dichloroethane			99.7		%		60-130	21-AUG-19
1,1-Dichloroethylene			92.0		%		60-130	21-AUG-19
1,2-Dibromoethane			107.1		%		70-130	21-AUG-19
1,2-Dichlorobenzene			106.1		%		70-130	21-AUG-19
1,2-Dichloroethane			112.4		%		60-130	21-AUG-19
1,2-Dichloropropane			112.1		%		70-130	21-AUG-19
1,3-Dichlorobenzene			102.2		%		70-130	21-AUG-19
1,4-Dichlorobenzene			105.1		%		70-130	21-AUG-19
Acetone			120.8		%		60-140	21-AUG-19
Benzene			107.5		%		70-130	21-AUG-19
Bromodichloromethane			108.5		%		50-140	21-AUG-19
Bromoform			109.1		%		70-130	21-AUG-19
Bromomethane			87.1		%		50-140	21-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9
Contact: ANDREW VERMEERSCH

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4762112								
WG3137504-2 LCS			00.7		0/			-
Carbon tetrachloride Chlorobenzene			96.7		%		70-130	21-AUG-19
			105.0		%		70-130	21-AUG-19
Chloroform			103.0		%		70-130	21-AUG-19
cis-1,2-Dichloroethylene			100.3		%		70-130	21-AUG-19
cis-1,3-Dichloropropene			111.4		%		70-130	21-AUG-19
Dibromochloromethane			101.1		%		60-130	21-AUG-19
Dichlorodifluoromethane			58.3		%		50-140	21-AUG-19
Ethylbenzene			100.6		%		70-130	21-AUG-19
n-Hexane			88.4		%		70-130	21-AUG-19
Methylene Chloride			100.0		%		70-130	21-AUG-19
MTBE			99.3		%		70-130	21-AUG-19
m+p-Xylenes			101.1		%		70-130	21-AUG-19
Methyl Ethyl Ketone			118.3		%		60-140	21-AUG-19
Methyl Isobutyl Ketone			116.9		%		60-140	21-AUG-19
o-Xylene			101.6		%		70-130	21-AUG-19
Styrene			103.5		%		70-130	21-AUG-19
Tetrachloroethylene			93.4		%		60-130	21-AUG-19
Toluene			98.9		%		70-130	21-AUG-19
trans-1,2-Dichloroethyler	ne		95.2		%		60-130	21-AUG-19
trans-1,3-Dichloropropen	ne		107.7		%		70-130	21-AUG-19
Trichloroethylene			102.0		%		60-130	21-AUG-19
Trichlorofluoromethane			91.2		%		50-140	21-AUG-19
Vinyl chloride			96.9		%		60-140	21-AUG-19
WG3137504-1 MB								
1,1,1,2-Tetrachloroethan			<0.050		ug/g		0.05	21-AUG-19
1,1,2,2-Tetrachloroethan	е		<0.050		ug/g		0.05	21-AUG-19
1,1,1-Trichloroethane			<0.050		ug/g		0.05	21-AUG-19
1,1,2-Trichloroethane			<0.050		ug/g		0.05	21-AUG-19
1,1-Dichloroethane			<0.050		ug/g		0.05	21-AUG-19
1,1-Dichloroethylene			< 0.050		ug/g		0.05	21-AUG-19
1,2-Dibromoethane			< 0.050		ug/g		0.05	21-AUG-19
1,2-Dichlorobenzene			< 0.050		ug/g		0.05	21-AUG-19
1,2-Dichloroethane			< 0.050		ug/g		0.05	21-AUG-19
1,2-Dichloropropane			< 0.050		ug/g		0.05	21-AUG-19



Workorder: L2328062 Report Date: 05-SEP-19 Page 41 of 44

CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9 Contact: ANDREW VERMEERSCH

Test N	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4762112 WG3137504-1 MB								
1,3-Dichlorobenzene			< 0.050		ug/g		0.05	21-AUG-19
1,4-Dichlorobenzene			<0.050		ug/g		0.05	21-AUG-19
Acetone			<0.50		ug/g		0.5	21-AUG-19
Benzene			<0.0068		ug/g		0.0068	21-AUG-19
Bromodichloromethane			< 0.050		ug/g		0.05	21-AUG-19
Bromoform			< 0.050		ug/g		0.05	21-AUG-19
Bromomethane			< 0.050		ug/g		0.05	21-AUG-19
Carbon tetrachloride			< 0.050		ug/g		0.05	21-AUG-19
Chlorobenzene			< 0.050		ug/g		0.05	21-AUG-19
Chloroform			<0.050		ug/g		0.05	21-AUG-19
cis-1,2-Dichloroethylene			< 0.050		ug/g		0.05	21-AUG-19
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	21-AUG-19
Dibromochloromethane			< 0.050		ug/g		0.05	21-AUG-19
Dichlorodifluoromethane			< 0.050		ug/g		0.05	21-AUG-19
Ethylbenzene			<0.018		ug/g		0.018	21-AUG-19
n-Hexane			< 0.050		ug/g		0.05	21-AUG-19
Methylene Chloride			< 0.050		ug/g		0.05	21-AUG-19
MTBE			< 0.050		ug/g		0.05	21-AUG-19
m+p-Xylenes			< 0.030		ug/g		0.03	21-AUG-19
Methyl Ethyl Ketone			<0.50		ug/g		0.5	21-AUG-19
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	21-AUG-19
o-Xylene			<0.020		ug/g		0.02	21-AUG-19
Styrene			< 0.050		ug/g		0.05	21-AUG-19
Tetrachloroethylene			< 0.050		ug/g		0.05	21-AUG-19
Toluene			<0.080		ug/g		0.08	21-AUG-19
trans-1,2-Dichloroethylene			< 0.050		ug/g		0.05	21-AUG-19
trans-1,3-Dichloropropene			< 0.030		ug/g		0.03	21-AUG-19
Trichloroethylene			<0.010		ug/g		0.01	21-AUG-19
Trichlorofluoromethane			< 0.050		ug/g		0.05	21-AUG-19
Vinyl chloride			<0.020		ug/g		0.02	21-AUG-19
Surrogate: 1,4-Difluoroben	zene		102.4		%		50-140	21-AUG-19
Surrogate: 4-Bromofluorob	enzene		90.6		%		50-140	21-AUG-19
WG3137504-5 MS 1,1,1,2-Tetrachloroethane		L2328868-8	103.4		%		50-140	21-AUG-19



Workorder: L2328062 Report Date: 05-SEP-19 Page 42 of 44

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: ANDREW VERMEERSCH

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4762112	2							
WG3137504-5 MS 1,1,2,2-Tetrachloroetha	ano	L2328868-8	121.2		%		FO 140	04 AUG 40
1,1,1-Trichloroethane	ane		98.0		%		50-140	21-AUG-19 21-AUG-19
1,1,2-Trichloroethane			113.6		%		50-140 50-140	21-AUG-19 21-AUG-19
1,1-Dichloroethane			99.95		%		50-140	21-AUG-19 21-AUG-19
1,1-Dichloroethylene			99.93		%		50-140	21-AUG-19 21-AUG-19
1,2-Dibromoethane			112.6		%			
1,2-Dichlorobenzene			107.2		%		50-140	21-AUG-19
			107.2				50-140	21-AUG-19
1,2-Dichloroethane			117.0		%		50-140	21-AUG-19
1,2-Dichloropropane1,3-Dichlorobenzene			101.2		%		50-140	21-AUG-19
•					%		50-140	21-AUG-19
1,4-Dichlorobenzene			103.1				50-140	21-AUG-19
Acetone			134.6		%		50-140	21-AUG-19
Benzene	_		107.1		%		50-140	21-AUG-19
Bromodichloromethane	9		111.4		%		50-140	21-AUG-19
Bromoform			115.1		%		50-140	21-AUG-19
Bromomethane			87.0		%		50-140	21-AUG-19
Carbon tetrachloride			94.9		%		50-140	21-AUG-19
Chlorobenzene			104.7		%		50-140	21-AUG-19
Chloroform			103.6		%		50-140	21-AUG-19
cis-1,2-Dichloroethylen			100.3		%		50-140	21-AUG-19
cis-1,3-Dichloropropen			110.6		%		50-140	21-AUG-19
Dibromochloromethan			104.4		%		50-140	21-AUG-19
Dichlorodifluoromethar	ne		61.0		%		50-140	21-AUG-19
Ethylbenzene			98.8		%		50-140	21-AUG-19
n-Hexane			87.3		%		50-140	21-AUG-19
Methylene Chloride			101.8		%		50-140	21-AUG-19
MTBE			99.4		%		50-140	21-AUG-19
m+p-Xylenes			98.5		%		50-140	21-AUG-19
Methyl Ethyl Ketone			126.7		%		50-140	21-AUG-19
Methyl Isobutyl Ketone			127.8		%		50-140	21-AUG-19
o-Xylene			100.4		%		50-140	21-AUG-19
Styrene			103.0		%		50-140	21-AUG-19
Tetrachloroethylene			90.8		%		50-140	21-AUG-19



Workorder: L2328062 Report Date: 05-SEP-19 Page 43 of 44

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: ANDREW VERMEERSCH

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4762112 WG3137504-5 MS		L2328868-8						
Toluene			97.4		%		50-140	21-AUG-19
trans-1,2-Dichloroethylen	е		93.5		%		50-140	21-AUG-19
trans-1,3-Dichloropropen	е		107.7		%		50-140	21-AUG-19
Trichloroethylene			100.5		%		50-140	21-AUG-19
Trichlorofluoromethane			90.5		%		50-140	21-AUG-19
Vinyl chloride			96.7		%		50-140	21-AUG-19

Report Date: 05-SEP-19 Workorder: L2328062

CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

ANDREW VERMEERSCH

Legend:

Contact:

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

Matrix Spike Duplicate **MSD**

Average Desorption Efficiency ADE

Method Blank MB

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.
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.

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.

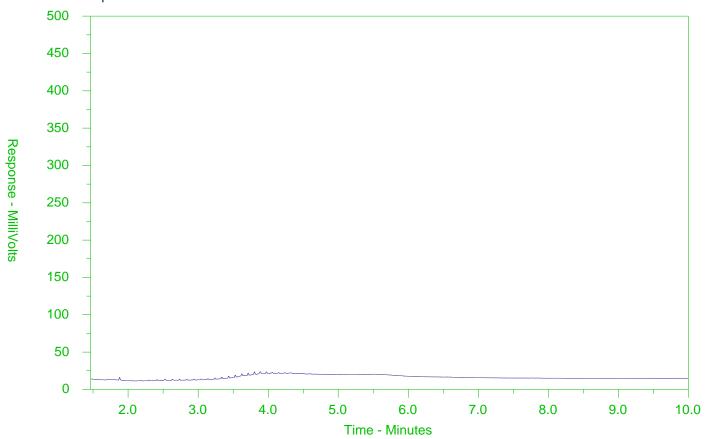
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide 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.

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ALS Sample ID: L2328062-2 Client Sample ID: BH200-7.5-9.5



← -F2-	→←	—F3—→ ← —F4—	>			
nC10	nC16	nC34	nC50			
174°C	287°C	481°C	575°C			
346°F	549°F	898°F	1067⁰F			
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease →					
←	← Diesel/Jet Fuels →					

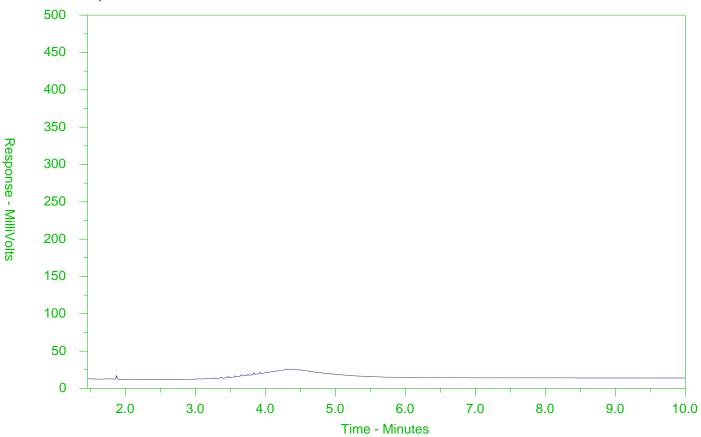
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-5 Client Sample ID: BH202-10-12



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

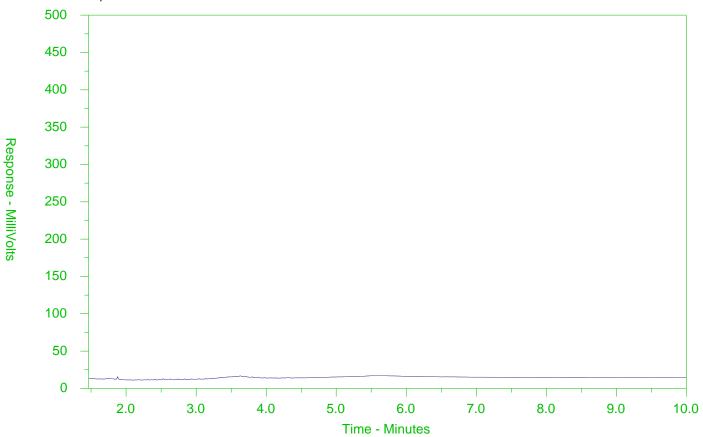
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-11 Client Sample ID: BH205-7.5-9.5



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

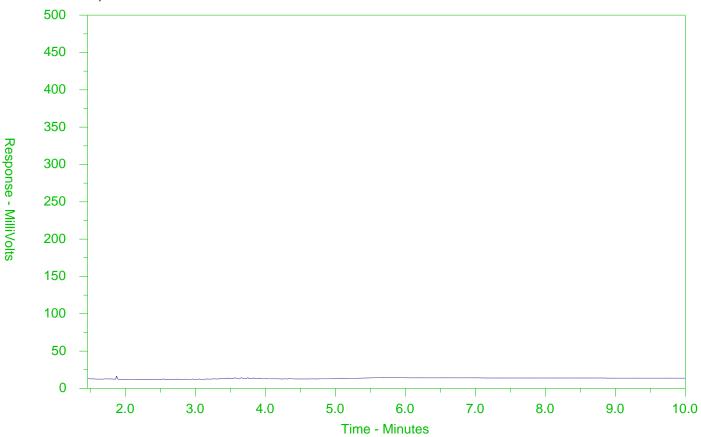
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-12 Client Sample ID: BH205-10-12



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

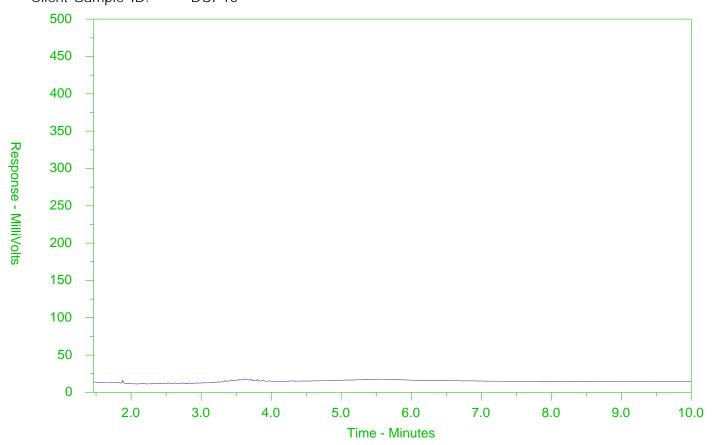
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-15 Client Sample ID: DUP10



← -F2-	→←	—F3—→ ← —F4—	>			
nC10	nC16	nC34	nC50			
174°C	287°C	481°C	575°C			
346°F	549°F	898°F	1067⁰F			
Gasolin	Gasoline → Motor Oils/Lube Oils/Grease →					
←	← Diesel/Jet Fuels →					

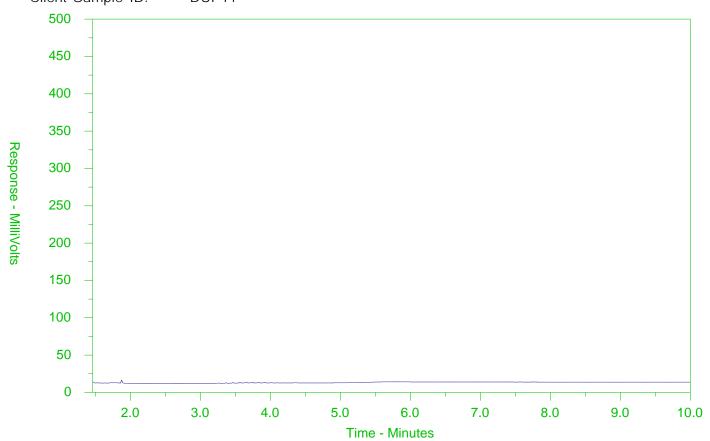
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-16
Client Sample ID: DUP11



← -F2-	→ ←	—F3—→ ← F4—	>
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067⁰F
Gasolin	e →	← Mot	or Oils/Lube Oils/Grease
•	-Diesel/J	et Fuels→	

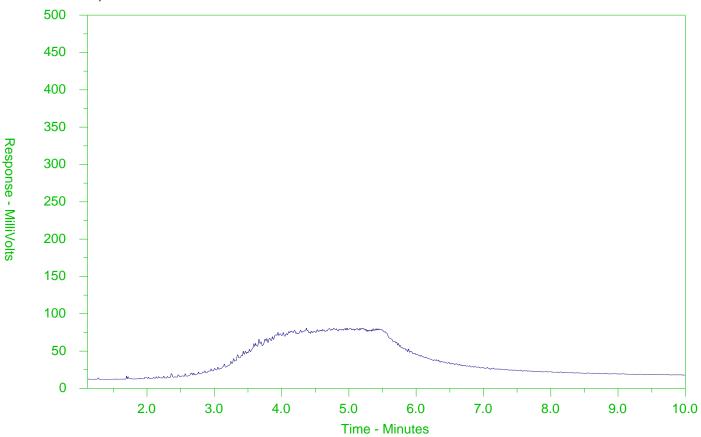
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-17 Client Sample ID: MW105-5-6



← -F2-	→ ←	—F3—→ ← F4—	>
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067⁰F
Gasolin	e →	← Mot	or Oils/Lube Oils/Grease
•	-Diesel/J	et Fuels→	

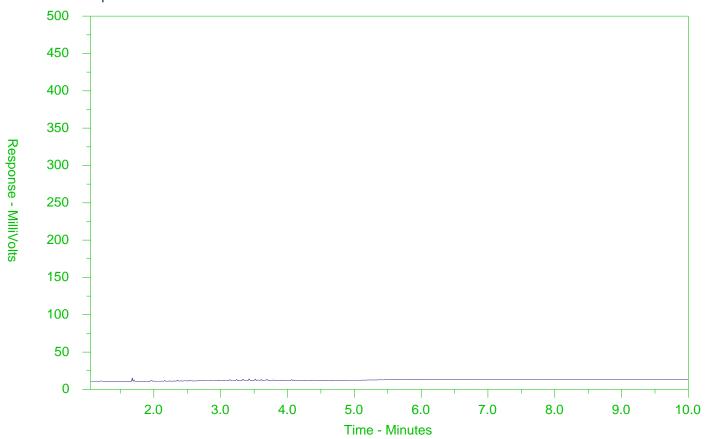
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-19
Client Sample ID: MW105-10-12



← -F2-	→-	—F3—→←—F4—	>
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasolin	e →	← Mot	or Oils/Lube Oils/Grease-
←	-Diesel/Je	et Fuels→	

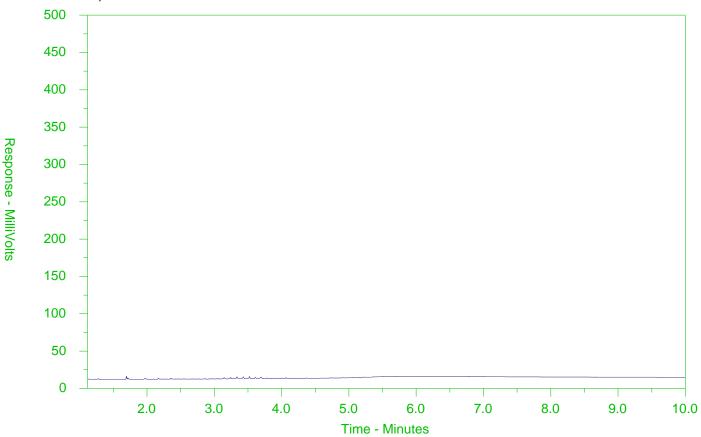
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-21 Client Sample ID: MW105-15-17



← -F2-	→ ←	—F3—→ ← —F4—	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ıe →	← Mot	or Oils/Lube Oils/Grease——	
←	-Diesel/Je	t Fuels→		

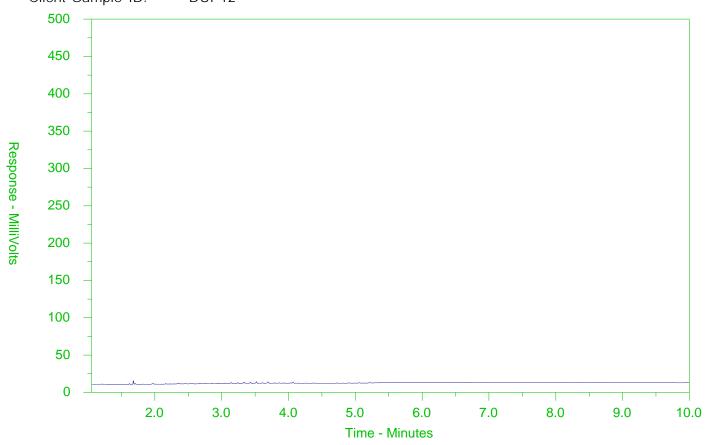
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-24 Client Sample ID: DUP12



← -F2-	→←	—F3—→ ← —F4—	>
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067⁰F
Gasolin	e →	← Mot	or Oils/Lube Oils/Grease
←	-Diesel/Je	t Fuels→	

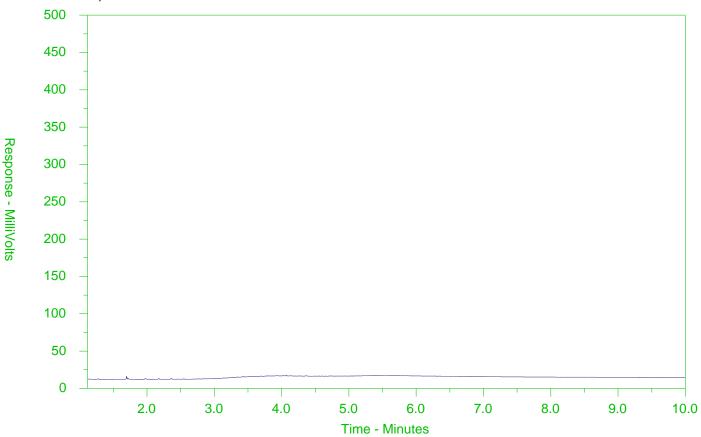
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-26 Client Sample ID: MW104-7-9



← -F2-	→ ←	—F3—→ ← —F4—	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ıe →	← Mot	or Oils/Lube Oils/Grease——	
←	-Diesel/Je	t Fuels→		

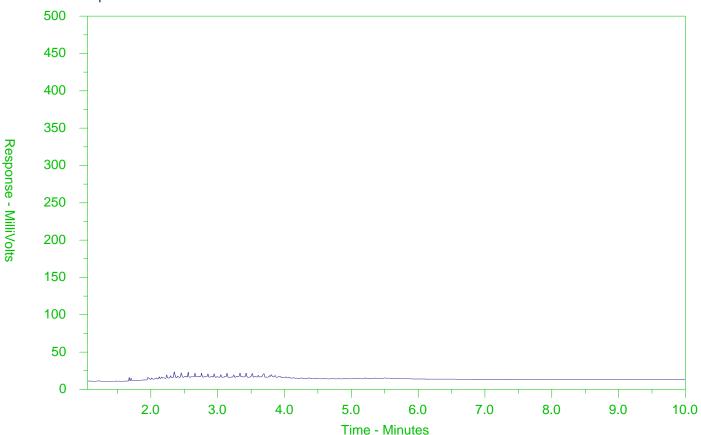
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2328062-28 Client Sample ID: MW104-15-17



← -F2-	→ ←	—F3—→ ← —F4—	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ıe →	← Mot	or Oils/Lube Oils/Grease——	
←	-Diesel/Je	t 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.

Chain of Custody (COC) / Analytical Request Form

COC Number: 17 -

Court of the secretary Canada Toll Free: 1 800 668 9878 www.alsglobal.com Report To Contact and company name below will appear on the final regult. Report Format / Distribution Select Service Level Below - Contact your AM to confirm all EAP TATs (surcharges may apply) CH2M HiMJacobs Company Select Report Format; 🎽 PDF 🔛 EXCEL 🕊 FDO (DIGITAL) Regular [R] Standard TA1 if received by 3 pm - business days - no surcharges apply Contact Andrew Vermeersch Quality Control (QC) Report with Report 🏗 res 🔲 no 4 day [P4-20%] 1 Business day (E1 - 100%) \Box 519 579 3500 x 73247 Phone: Mompore Results to Onteria on Report - provide details below If box checked 3 day (P3-25%) 🗇 Same Day, Weekend or Statutory holiday [E2 -200% Company address below will appear on the fyral report Select Distribution: 😘 FMAD 🔲 MADL 🔲 FAX. 2 day [P2-50%] 🔲 (Laboratory opening fees may apply)] Street: 72 Victoria Street South, Suite 300 Email 1 or Fax Andrew Vermeersch@iacobs.com Date and Time Required for all ESP TATE: Kitchener/Ontario City/Province: Email 2 prichael. Shiry & jacobs, com Meth that can not be performed according to the service lovel adjected, you sail to contacted N2G 4Y9 Postal Code: Analysis Request Invoice To Same as Report To ∏YES ∏ NO Invoice Distribution Indicate Fallered (F), Preserved (F) or Fillered and Preserved (F/P) below ☐ YES ☐ MO Copy of Invoice with Report Select Invoice Distribution: 🗌 EMAIL 🔲 MAIL 🦳 FAX Campany CH2M Hill Kitchener Email 1 or Fax Accounts Payable Contact: Accounts Payable Email 2 provide Project Information Oil and Gas Required Fields (client use) ALS Account # / Quote # Q72980 PO# At E/Cost Center Jab # CE751900 A.CS.EV.A2 Assor/Jamor Code Routing Code: CONTAINERS PO / AFE: Requisitioner: LSD: Location ALS Lab Work Order # (fab use only): SAMPLES ON ALS Contact: Mathy Sampler: Andrew V. ALS Sample # Sample Identification and/or Coordinates Date Time Sample Type (lab use only) ž 8 (This description will appear on the report) (Od-mmm-w) ibb:mmi BH200-6-7 11 58 ا (نوخ BHZ00- 7-5-9-5 X X11 12:06 BH200 - 7.5-1.5 r ja, 15 BUZOC - 15-17 (1:37 1i - 1 BHZ02 - 10-12-1420 × BNZ02 - 10-12 Į. 11 × 11 BHZ02-15-16-5 11 14 43 X X Bu205-05-2 9 50 BH205-0.5-2 15 х BH205- 25-45 B 5% 11 BUZD5- 75-95 9 13 X 11 × BH205- 10-72 9.66 $\mathbf{x} \mid \mathbf{x} \mid \mathbf{x}$ Special Instructions / Specify Criteria to add on report by elicking on the drop-down list below SAMPLE CONDITION AS RECEIVED (lab use only) Drinking Water (DW) Samples (client use) falectronic COC poly) **ØIF Observations** П No Are samples taken from a Regulated DW System? Mensecompare to Table 1 Standards - criteria ice Packs Die Cubes D'Custody seal intact п No П ☐ YES 🖼 NO not on report Cooling Initiated | | | Are samples for human consumption/ uso? INITIAL COOLER TEMPERATURES *C FINAL COOLER TEMPERATURES C Пува **(29**мо) SHIPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (lab use only) FINAL SHIPMENT RECEPTION (lab use only) Released by: Received by: Received by Andrew Vermersch

WHITE - LABORATORY COPY

Failure to complete as portions of this form may defay analysis. Please fill in this form LEG/BLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the whole - report page. 1 If any water samples are taken from a Regulated Drinking Water (DW). System, please submit using an Authorized DW COC form.

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

ALS Enusionmental

Chain of Custody (COC) / Analytical Request Form

L2328062-COFC

CCC Number: 17 -

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Canada Toll Free: 1 800 668 9878 www.atsglobal.com Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply) Report Format / Distribution Contact and company name below will appear on the final report Report To Select Report Format: PP PDF PP EXCR. THEOD (DIGITAL) Standard TAT of received by 3 pm - business days - no surcharges apply Regular [R] Company CH2M Hill/Jacobs Quality Control (QC) Report with Report 2 YES 10 NO 4 day [P4-20%] Business day (E1 - 100%) Andrew Vermeersch Contact: 3 day (P3-25%) 🖂 Prompare Results to Entena on Report - provide details below if box checked 519 579 3500 x 73247 Same Day, Weekend or Statutory holiday (E2 -200%) Phone: Select Distribution 🙎 FMAIL 🔲 MAIL 🔲 FAX (Laboratory opening fees may apply)] 2 day [P2-50%] Company address below will appear on the final report Date and Time Required for all E&P TATs: Fmail 1 or Fax Andrew Vermeersch@jacobs.com 72 Victoria Street South, Suite 300 Street Email 2 michael , Shiry & jacob. com or hasts that can not be performed asserting to the service level refected, you will be compared Kitchener/Ontario City/Province: Analysis Request N2G 4Y9 Email 3 Postal Code: Indicate Filtered (F), Preserved (F) or Fillered and Preserved (F)P) below THES NO Invoice Distribution Same as Report To oT esioval ☐ 93-5 ☐ NO Select Invoice Distribution: 🗌 EMAIL 🔲 MAIL Copy of Invoice with Report Email 1 or Fex Accounts Payable CH2M Hill Kitchener Company: Accounts Pavable Email 2 Contact. Project Information Oil and Gas Regulred Fields (client use) PO# ALS Account # / Quote #: Q72980 AFE/Cost Center: ALS. CF751900.A CS.EV.A2 Maior/Minor Code: Routing Code: 30b# Requisitioner: PO / AFE: SD: Location: Ě 중 ALS Lab Work Order # (lab use only): 12328067 136 Andrew V. ALS Contact: Mathy Sampler: SAMPLES N. F. Time Sample identification and/or Coordinates Date ALS Sample # Sample Type (thh:mm) (lab use only) (This description will appear on the report) (dd-mmm-yy) F BH205-10-12 Sull 4:22 L-Aug-17 5 <u>136</u> У X × 84205-12-5-15 ٧ Suffic 34 11 Durli u MW105-5-6 13-Aug-19 ነት ንቴ ж. 40 11 MW108-5-6 14 v X 9:02 MW105-10-12 44 × 4.4 11 MW105-10-12 14 ú X MW108-15-17 12.5 4:14 MW105 - 15-17 W 11 х MW105- 21.5-22 9:42 × 11 х × 11 OMIL SAMPLE CONDITION AS RECEIVED (lab use only) Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below Drinking Water (DW) Samples¹ (client use) SIF Observations Frozen П loe Packs 🔲 Ice Cubes 🔲 Custody seal intact. Νo Are samples taken from a Regulated DW System? Trans compare to Table 1 Standards - critaria mor Yes TYES TO NO Cooling Initiated | FINAL COOLER TEMPERATURES *C MAITIAL COOLER TEMPERATURÉS *C. Are samples for human consumption/ use? Some Samples on HOLD ☐ YES 🛣 NO INITIAL SHIPMENT RECEPTION (lab use only) FINAL SHAPMENT RECEPTION (Int) use only) SHIPMENT RELEASE (client use) Received by: Time: Received by: Time: Released by: 13-Au-19 Andrew Vermensel REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATIO WHITE - LABORATORY COPY

Failure to complete all portions of this form may delay analysis. Please 68 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

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Chain of Custody (COC) / Analytical Request Form

L2328062-COFC

COC Number: 17 -

Page 3 of 3

S) Enumental Canada Toll

Canada Toll Free: 1 800 668 9878

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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 while - rep

If any water samples are taken from a Ragulated Drinking Water (DW). System, pleasa submit using an Authorized DW COC form.



CH2M HILL CANADA LIMITED ATTN: Andrew Vermeersch

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 16-AUG-19

Report Date: 06-SEP-19 10:23 (MT)

Version: FINAL

Client Phone: 519-579-3500

Certificate of Analysis

Lab Work Order #: L2330748
Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV.A2

C of C Numbers: Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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PAGE 2 of 27 Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2330748-1 MW103-12.5-14 Sampled By: ANDREW V on 14-AUG-19 @ 14:50 Matrix: SOIL							
Physical Tests							
Conductivity	1.90		0.0040	mS/cm		27-AUG-19	R4769855
% Moisture	10.8		0.10	%	20-AUG-19	21-AUG-19	R4761888
рН	7.98		0.10	pH units		22-AUG-19	R4764361
Cyanides				·			
Cyanide, Weak Acid Diss	< 0.050		0.050	ug/g	20-AUG-19	22-AUG-19	R4764193
Organic / Inorganic Carbon							
Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Average Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon Saturated Paste Extractables	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
				0.4.0		07 4110 40	D
SAR	26.7		0.10	SAR		27-AUG-19	
Calcium (Ca)	10.7		0.50	mg/L		27-AUG-19	
Magnesium (Mg)	1.11		0.50	mg/L		27-AUG-19	R4769897
Sodium (Na)	343		0.50	mg/L		27-AUG-19	R4769897
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Arsenic (As)	1.9		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Barium (Ba)	23.5		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Beryllium (Be)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B)	5.5		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B), Hot Water Ext.	<0.10		0.10	ug/g	27-AUG-19	27-AUG-19	R4769645
Cadmium (Cd)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Chromium (Cr)	8.8		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Cobalt (Co)	3.4		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Copper (Cu)	8.4		1.0	ug/g	27-AUG-19		R4769902
Lead (Pb)	11.2		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Mercury (Hg)	0.0068		0.0050	ug/g	27-AUG-19	27-AUG-19	
Molybdenum (Mo)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	
Nickel (Ni)	6.8			ug/g ug/g	27-AUG-19	27-AUG-19	R4769902
Selenium (Se)	<1.0		1.0 1.0		27-AUG-19 27-AUG-19	27-AUG-19 27-AUG-19	R4769902
` '				ug/g			
Silver (Ag)	<0.20		0.20	ug/g	27-AUG-19	27-AUG-19	
Thallium (TI)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	
Uranium (U)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	
Vanadium (V)	18.2		1.0	ug/g	27-AUG-19	27-AUG-19	
Zinc (Zn)	69.8		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Speciated Metals							
Chromium, Hexavalent Volatile Organic Compounds	<0.20		0.20	ug/g	22-AUG-19	23-AUG-19	R4765750
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^{*} Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-1 MW103-12.5-14 Sampled By: ANDREW V on 14-AUG-19 @ 14:50 Matrix: SOIL							
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromodichloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromoform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromomethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Carbon tetrachloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dibromochloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chloroform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dibromoethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methylene Chloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloropropane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		25-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	22-AUG-19	25-AUG-19	R4768235
n-Hexane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
MTBE	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Styrene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Tetrachloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Toluene	<0.080		0.080	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Trichloroethylene	<0.010		0.010	ug/g	22-AUG-19	25-AUG-19	R4768235
Trichlorofluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Vinyl chloride	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
o-Xylene	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
m+p-Xylenes	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
Xylenes (Total)	<0.050		0.050	ug/g		25-AUG-19	

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

L2330748 CONTD.... PAGE 4 of 27

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-1 MW103-12.5-14 Sampled By: ANDREW V on 14-AUG-19 @ 14:50 Matrix: SOIL							
Volatile Organic Compounds							
Surrogate: 4-Bromofluorobenzene	96.8		50-140	%	22-AUG-19	25-AUG-19	R4768235
Surrogate: 1,4-Difluorobenzene	116.2		50-140	%	22-AUG-19	25-AUG-19	R4768235
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-AUG-19	25-AUG-19	R4768235
F1-BTEX	<5.0		5.0	ug/g		25-AUG-19	
F2 (C10-C16)	<10		10	ug/g	20-AUG-19	21-AUG-19	R4763044
F2-Naphth	<10		10	ug/g		25-AUG-19	
F3 (C16-C34)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
F3-PAH	<50		50	ug/g		25-AUG-19	
F4 (C34-C50)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
Total Hydrocarbons (C6-C50)	<72		72	ug/g		25-AUG-19	
Chrom. to baseline at nC50	YES				20-AUG-19	21-AUG-19	R4763044
Surrogate: 2-Bromobenzotrifluoride	88.7		60-140	%	20-AUG-19	21-AUG-19	R4763044
Surrogate: 3,4-Dichlorotoluene	83.6		60-140	%	22-AUG-19	25-AUG-19	R4768235
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Acenaphthylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Anthracene	< 0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)anthracene	< 0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(b)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(k)fluoranthene	< 0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Chrysene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluorene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		23-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
2-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
Naphthalene	<0.013		0.013	ug/g	20-AUG-19	23-AUG-19	R4766148
Phenanthrene	<0.046		0.046	ug/g	20-AUG-19	23-AUG-19	R4766148
Pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Surrogate: 2-Fluorobiphenyl	93.2		50-140	%	20-AUG-19	23-AUG-19	R4766148
Surrogate: p-Terphenyl d14	81.1		50-140	%	20-AUG-19	23-AUG-19	R4766148
L2330748-3 MW103-17.5-19.5 Sampled By: ANDREW V on 14-AUG-19 @ 15:11 Matrix: SOIL							
Physical Tests							
Conductivity	1.04		0.0040	mS/cm		27-AUG-19	R4769855
% Moisture	9.01		0.10	%	20-AUG-19	21-AUG-19	R4761888

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-3 MW103-17.5-19.5 Sampled By: ANDREW V on 14-AUG-19 @ 15:11 Matrix: SOIL							
Physical Tests							
pH	7.95		0.10	pH units		22-AUG-19	R4764361
Cyanides				'			
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	20-AUG-19	22-AUG-19	R4764193
Organic / Inorganic Carbon							
Fraction Organic Carbon	0.0035		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	0.0028		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	0.0039		0.0010		01-SEP-19	01-SEP-19	R4779768
Average Fraction Organic Carbon	0.0034		0.0010		01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	0.35		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	0.28		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	0.39		0.10	%	01-SEP-19	01-SEP-19	R4779768
Saturated Paste Extractables				0.15			
SAR	13.2		0.10	SAR		27-AUG-19	
Calcium (Ca)	10.8		0.50	mg/L		27-AUG-19	R4769897
Magnesium (Mg)	2.59		0.50	mg/L		27-AUG-19	
Sodium (Na)	186		0.50	mg/L		27-AUG-19	R4769897
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Arsenic (As)	2.9		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Barium (Ba)	110		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Beryllium (Be)	0.62		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B)	10.9		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B), Hot Water Ext.	<0.10		0.10	ug/g	27-AUG-19	27-AUG-19	R4769645
Cadmium (Cd)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Chromium (Cr)	24.6		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Cobalt (Co)	8.6		1.0	ug/g	27-AUG-19	27-AUG-19	
Copper (Cu)	18.8		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Lead (Pb)	8.9		1.0	ug/g	27-AUG-19	27-AUG-19	
Mercury (Hg)	0.0122				27-AUG-19		
			0.0050	ug/g			R4769520
Molybdenum (Mo)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Nickel (Ni)	19.5		1.0	ug/g	27-AUG-19	27-AUG-19	
Selenium (Se)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	
Silver (Ag)	<0.20		0.20	ug/g	27-AUG-19	27-AUG-19	R4769902
Thallium (TI)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Uranium (U)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Vanadium (V)	34.6		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Zinc (Zn)	49.9		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Speciated Metals							
Chromium, Hexavalent Volatile Organic Compounds	<0.20		0.20	ug/g	22-AUG-19	23-AUG-19	R4765750
Acetone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Benzene	<0.0068		0.0068	ug/g ug/g	22-AUG-19	25-AUG-19	R4768235
Bromodichloromethane					22-AUG-19		
Diomodichioromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	K4708235

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-3 MW103-17.5-19.5							
Sampled By: ANDREW V on 14-AUG-19 @ 15:11 Matrix: SOII							
Matrix: SOIL Volatile Organic Compounds							
Bromoform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromomethane	<0.050		0.050	ug/g	22-AUG-19		R4768235
Carbon tetrachloride	<0.050		0.050	ug/g	22-AUG-19		R4768235
Chlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dibromochloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chloroform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dibromoethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methylene Chloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloropropane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		25-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	22-AUG-19	25-AUG-19	R4768235
n-Hexane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
MTBE	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Styrene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19		R4768235
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Tetrachloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Toluene	<0.080		0.080	ug/g	22-AUG-19	25-AUG-19	
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Tricklers (Leaves at Leave	<0.010		0.010	ug/g	22-AUG-19	25-AUG-19	
Trichlorofluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Vinyl chloride	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	
o-Xylene	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	
m+p-Xylenes	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	K4768235
Xylenes (Total)	<0.050		0.050	ug/g	00 4110 46	25-AUG-19	D 4700000
Surrogate: 4.4 Diffuorobenzene	93.2		50-140	%	22-AUG-19	25-AUG-19	
Surrogate: 1,4-Difluorobenzene	112.1		50-140	%	22-AUG-19	25-AUG-19	K4/68235

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-3 MW103-17.5-19.5 Sampled By: ANDREW V on 14-AUG-19 @ 15:11 Matrix: SOIL							
Volatile Organic Compounds							
Hydrocarbons F1 (C6-C10)	.5.0		5.0	/a	22 4110 40	25 ALIC 10	D 4700005
F1-BTEX	<5.0 <5.0		5.0	ug/g	22-AUG-19	25-AUG-19 25-AUG-19	R4768235
F2 (C10-C16)	<5.0 <10		5.0	ug/g	20-AUG-19	21-AUG-19	R4763044
F2-Naphth			10	ug/g	20-AUG-19	25-AUG-19	K4763044
	<10		10	ug/g	20 4110 40		D 4700044
F3 (C16-C34) F3-PAH	<50		50	ug/g	20-AUG-19	21-AUG-19	K4763044
	<50		50	ug/g	00 4110 40	25-AUG-19	D 47000 4 4
F4 (C34-C50)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
Total Hydrocarbons (C6-C50)	<72		72	ug/g		25-AUG-19	
Chrom. to baseline at nC50	YES				20-AUG-19	21-AUG-19	
Surrogate: 2-Bromobenzotrifluoride	82.5		60-140	%	20-AUG-19	21-AUG-19	R4763044
Surrogate: 3,4-Dichlorotoluene	71.4		60-140	%	22-AUG-19	25-AUG-19	R4768235
Polycyclic Aromatic Hydrocarbons				,	00 1110 10	00 4110 40	
Acenaphthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Acenaphthylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Benzo(a)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(b)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(k)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Chrysene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluorene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		23-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
2-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
Naphthalene	<0.013		0.013	ug/g	20-AUG-19	23-AUG-19	R4766148
Phenanthrene	<0.046		0.046	ug/g	20-AUG-19	23-AUG-19	R4766148
Pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Surrogate: 2-Fluorobiphenyl	99.1		50-140	%	20-AUG-19	23-AUG-19	R4766148
Surrogate: p-Terphenyl d14	90.5		50-140	%	20-AUG-19	23-AUG-19	R4766148
L2330748-5 MW103-22.5-24.5 Sampled By: ANDREW V on 14-AUG-19 @ 15:36 Matrix: SOIL							
Physical Tests							
Conductivity	1.08		0.0040	mS/cm		06-SEP-19	R4784415
Saturated Paste Extractables							
SAR	12.7		0.10	SAR		05-SEP-19	R4783543
Calcium (Ca)	12.9		0.50	mg/L		05-SEP-19	R4783543

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-5 MW103-22.5-24.5 Sampled By: ANDREW V on 14-AUG-19 @ 15:36 Matrix: SOIL							
Saturated Paste Extractables							
Magnesium (Mg)	3.33		0.50	mg/L		05-SEP-19	R4783543
Sodium (Na)	198		0.50	mg/L		05-SEP-19	R4783543
L2330748-6 MW109-8-9.5 Sampled By: ANDREW V on 15-AUG-19 @ 10:42 Matrix: SOIL							
Physical Tests							
Conductivity	0.394		0.0040	mS/cm		27-AUG-19	R4769452
% Moisture	8.42		0.10	%	20-AUG-19	21-AUG-19	R4761888
рН	7.96		0.10	pH units		22-AUG-19	R4764361
Cyanides							
Cyanide, Weak Acid Diss Organic / Inorganic Carbon	<0.050		0.050	ug/g	20-AUG-19	22-AUG-19	R4764193
Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Average Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon Saturated Paste Extractables	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
SAR	16.5	SAR:M	0.10	SAR		27-AUG-19	D4760005
Calcium (Ca)	2.16	0,414.11	0.10	mg/L		27-AUG-19	
Magnesium (Mg)	<0.50		0.50	mg/L		27-AUG-19	
Sodium (Na)			0.50	_		27-AUG-19	
Metals	88.1		0.50	mg/L		21-A0G-19	K4769905
Antimony (Sb)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Arsenic (As)	2.2		1.0	ug/g	27-AUG-19	27-AUG-19	
Barium (Ba)	34.1		1.0	ug/g	27-AUG-19	27-AUG-19	
Beryllium (Be)	<0.50		0.50	ug/g	27-AUG-19		
Boron (B)	6.3		5.0	ug/g	27-AUG-19	27-AUG-19	
Boron (B), Hot Water Ext.	0.12		0.10	ug/g	27-AUG-19	27-AUG-19	
Cadmium (Cd)	<0.50		0.10	ug/g ug/g	27-AUG-19	27-AUG-19	
Chromium (Cr)	12.8		1.0	ug/g	27-AUG-19	27-AUG-19	1
Cobalt (Co)	5.1		1.0	ug/g	27-AUG-19	27-AUG-19	1
Copper (Cu)	12.0				27-AUG-19	27-AUG-19	
Lead (Pb)	13.0		1.0 1.0	ug/g ug/g	27-AUG-19 27-AUG-19	27-AUG-19 27-AUG-19	1
Mercury (Hg)	0.0132		0.0050		27-AUG-19 27-AUG-19	27-AUG-19 27-AUG-19	
Molybdenum (Mo)	<1.0		1.0	ug/g	27-AUG-19 27-AUG-19	27-AUG-19 27-AUG-19	
Nickel (Ni)	10.8			ug/g			
			1.0	ug/g	27-AUG-19	27-AUG-19	1
Selenium (Se)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	
Silver (Ag)	<0.20		0.20	ug/g	27-AUG-19	27-AUG-19	1
Thallium (TI)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	
Uranium (U)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
_2330748-6 MW109-8-9.5 Sampled By: ANDREW V on 15-AUG-19 @ 10:42 Matrix: SOIL							
Metals							
Vanadium (V)	21.7		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Zinc (Zn)	87.0		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	22-AUG-19	23-AUG-19	R4765750
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	23-AUG-19	26-AUG-19	R4768161
Benzene	<0.0068		0.0068	ug/g	23-AUG-19	26-AUG-19	R4768161
Bromodichloromethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161
Bromoform	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161
Bromomethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161
Carbon tetrachloride	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161
Chlorobenzene	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161
Dibromochloromethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161
Chloroform	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161
1,2-Dibromoethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161
1,2-Dichlorobenzene	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
1,3-Dichlorobenzene	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
1,4-Dichlorobenzene	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
Dichlorodifluoromethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
1,1-Dichloroethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
1,2-Dichloroethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
1,1-Dichloroethylene	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
Methylene Chloride	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
1,2-Dichloropropane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	23-AUG-19	26-AUG-19	R476816
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	23-AUG-19	26-AUG-19	R476816
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		26-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	23-AUG-19	26-AUG-19	R476816
n-Hexane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
Methyl Ethyl Ketone	<0.50		0.50	ug/g	23-AUG-19	26-AUG-19	R476816
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	23-AUG-19	26-AUG-19	R476816
MTBE	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
Styrene	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
Tetrachloroethylene	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R476816
Toluene	<0.080		0.080	ug/g	23-AUG-19	26-AUG-19	R476816
1,1,1-Trichloroethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161
1,1,2-Trichloroethane	<0.050		0.050	ug/g	23-AUG-19	26-AUG-19	R4768161

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

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Trichlorofluoromethane Vinyl chloride o-Xylene m+p-Xylenes	<0.010 <0.050 <0.020 <0.020 <0.030 <0.050 87.1 95.6 <5.0 <10 <10		0.010 0.050 0.020 0.020 0.030 0.050 50-140 50-140	ug/g ug/g ug/g ug/g ug/g ug/g %	23-AUG-19 23-AUG-19 23-AUG-19 23-AUG-19 23-AUG-19 23-AUG-19	26-AUG-19 26-AUG-19 26-AUG-19 26-AUG-19 26-AUG-19	
Trichloroethylene Trichlorofluoromethane Vinyl chloride o-Xylene m+p-Xylenes Xylenes (Total) Surrogate: 4-Bromofluorobenzene Surrogate: 1,4-Difluorobenzene Hydrocarbons F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<0.050 <0.020 <0.020 <0.030 <0.050 87.1 95.6 <5.0 <5.0 <10		0.050 0.020 0.020 0.030 0.050 50-140 50-140	ug/g ug/g ug/g ug/g ug/g %	23-AUG-19 23-AUG-19 23-AUG-19 23-AUG-19 23-AUG-19	26-AUG-19 26-AUG-19 26-AUG-19 26-AUG-19 26-AUG-19	R4768161 R4768161 R4768161 R4768161 R4768161
Trichlorofluoromethane Vinyl chloride o-Xylene m+p-Xylenes Xylenes (Total) Surrogate: 4-Bromofluorobenzene Surrogate: 1,4-Difluorobenzene Hydrocarbons F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<0.050 <0.020 <0.020 <0.030 <0.050 87.1 95.6 <5.0 <5.0 <10		0.050 0.020 0.020 0.030 0.050 50-140 50-140	ug/g ug/g ug/g ug/g ug/g %	23-AUG-19 23-AUG-19 23-AUG-19 23-AUG-19 23-AUG-19	26-AUG-19 26-AUG-19 26-AUG-19 26-AUG-19 26-AUG-19	R4768161 R4768161 R4768161 R4768161 R4768161
Vinyl chloride o-Xylene m+p-Xylenes Xylenes (Total) Surrogate: 4-Bromofluorobenzene Surrogate: 1,4-Difluorobenzene Hydrocarbons F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<0.020 <0.020 <0.030 <0.050 87.1 95.6 <5.0 <5.0		0.020 0.020 0.030 0.050 50-140 50-140	ug/g ug/g ug/g ug/g %	23-AUG-19 23-AUG-19 23-AUG-19 23-AUG-19	26-AUG-19 26-AUG-19 26-AUG-19 26-AUG-19	R4768161 R4768161 R4768161
o-Xylene m+p-Xylenes Xylenes (Total) Surrogate: 4-Bromofluorobenzene Surrogate: 1,4-Difluorobenzene Hydrocarbons F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<0.020 <0.030 <0.050 87.1 95.6 <5.0 <5.0 <10		0.020 0.030 0.050 50-140 50-140	ug/g ug/g ug/g % %	23-AUG-19 23-AUG-19 23-AUG-19	26-AUG-19 26-AUG-19 26-AUG-19 26-AUG-19	R4768161 R4768161 R4768161
m+p-Xylenes Xylenes (Total) Surrogate: 4-Bromofluorobenzene Surrogate: 1,4-Difluorobenzene Hydrocarbons F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<0.030 <0.050 87.1 95.6 <5.0 <5.0 <10		0.030 0.050 50-140 50-140	ug/g ug/g % %	23-AUG-19 23-AUG-19	26-AUG-19 26-AUG-19 26-AUG-19	R4768161
Xylenes (Total) Surrogate: 4-Bromofluorobenzene Surrogate: 1,4-Difluorobenzene Hydrocarbons F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<0.050 87.1 95.6 <5.0 <5.0 <10		0.050 50-140 50-140	ug/g % %	23-AUG-19	26-AUG-19 26-AUG-19	R4768161
Surrogate: 4-Bromofluorobenzene Surrogate: 1,4-Difluorobenzene Hydrocarbons F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	87.1 95.6 <5.0 <5.0 <10		50-140 50-140	% %		26-AUG-19	
Surrogate: 1,4-Difluorobenzene Hydrocarbons F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	95.6 <5.0 <5.0 <10		50-140	%			
Hydrocarbons F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<5.0 <5.0 <10				23-AUG-19	26-AUG-19	D 4700404
F1 (C6-C10) F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<5.0 <10		5.0				R4768161
F1-BTEX F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<5.0 <10		0.0	ug/g	23-AUG-19	25-AUG-19	R4768161
F2 (C10-C16) F2-Naphth F3 (C16-C34) F3-PAH	<10		5.0	ug/g ug/g		26-AUG-19	1.4700101
F2-Naphth F3 (C16-C34) F3-PAH			10	ug/g ug/g	20-AUG-19	21-AUG-19	R4763044
F3 (C16-C34) F3-PAH			10	ug/g		26-AUG-19	
	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
F4 (C34-C50)	<50		50	ug/g		26-AUG-19	
1 + (00+ 000)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
Total Hydrocarbons (C6-C50)	<72		72	ug/g		26-AUG-19	
Chrom. to baseline at nC50	YES			0.0	20-AUG-19	21-AUG-19	R4763044
Surrogate: 2-Bromobenzotrifluoride	89.0		60-140	%	20-AUG-19	21-AUG-19	R4763044
Surrogate: 3,4-Dichlorotoluene	76.8		60-140	%	23-AUG-19	25-AUG-19	R4768161
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Acenaphthylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(b)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(k)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Chrysene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluorene	<0.050		0.050	ug/g	20-AUG-19		R4766148
	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
	<0.042		0.042	ug/g		23-AUG-19	
	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	
	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	
	<0.013		0.013	ug/g	20-AUG-19	23-AUG-19	
	<0.046		0.046	ug/g	20-AUG-19		R4766148
	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Surrogate: 2-Fluorobiphenyl	96.3		50-140	%	20-AUG-19	23-AUG-19	R4766148

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-6 MW109-8-9.5 Sampled By: ANDREW V on 15-AUG-19 @ 10:42 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
Surrogate: p-Terphenyl d14	84.9		50-140	%	20-AUG-19	23-AUG-19	R4766148
L2330748-8 MW109-12.5-14.5 Sampled By: ANDREW V on 15-AUG-19 @ 11:11 Matrix: SOIL							
Physical Tests							
Conductivity	0.167		0.0040	mS/cm		27-AUG-19	R4769452
% Moisture	9.71		0.10	%	20-AUG-19	21-AUG-19	R4761888
pH	7.98		0.10	pH units		22-AUG-19	R4764361
Cyanides				'			
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	20-AUG-19	22-AUG-19	R4764193
Organic / Inorganic Carbon							
Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Average Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon Saturated Paste Extractables	0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
SAR	5.24		0.10	SAR		27-AUG-19	D 476000E
			0.10				R4769905
Calcium (Ca)	2.64		0.50	mg/L			R4769905
Magnesium (Mg)	0.92		0.50	mg/L			R4769905
Sodium (Na)	38.8		0.50	mg/L		27-AUG-19	R4769905
Metals	1.0		4.0		07 1110 40	07 1110 40	D 4700000
Antimony (Sb)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	
Arsenic (As)	2.4		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Barium (Ba)	48.4		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Beryllium (Be)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	
Boron (B)	6.3		5.0	ug/g	27-AUG-19		R4769902
Boron (B), Hot Water Ext.	<0.10		0.10	ug/g	27-AUG-19	27-AUG-19	R4769778
Cadmium (Cd)	<0.50		0.50	ug/g	27-AUG-19	1	R4769902
Chromium (Cr)	14.3		1.0	ug/g	27-AUG-19	27-AUG-19	
Cobalt (Co)	6.2		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Copper (Cu)	12.9		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Lead (Pb)	14.5		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Mercury (Hg)	0.0111		0.0050	ug/g	27-AUG-19	27-AUG-19	R4769520
Molybdenum (Mo)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Nickel (Ni)	13.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Selenium (Se)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Silver (Ag)	<0.20		0.20	ug/g	27-AUG-19	27-AUG-19	
Thallium (TI)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Uranium (U)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Vanadium (V)	23.0		1.0	ug/g	27-AUG-19		R4769902
vanddidii (v)	23.0		1.0	ug/g	21-700-19	21-700-19	114703302

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-8 MW109-12.5-14.5 Sampled By: ANDREW V on 15-AUG-19 @ 11:11 Matrix: SOIL							
Metals							
Zinc (Zn)	64.7		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	22-AUG-19	23-AUG-19	R4765750
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Benzene	<0.0068		0.0068	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromodichloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromoform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromomethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Carbon tetrachloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dibromochloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chloroform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dibromoethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methylene Chloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloropropane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		25-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	22-AUG-19	25-AUG-19	R4768235
n-Hexane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
MTBE	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Styrene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Tetrachloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Toluene	<0.080		0.080	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Trichloroethylene	<0.010		0.010	ug/g	22-AUG-19	25-AUG-19	R4768235

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-8 MW109-12.5-14.5 Sampled By: ANDREW V on 15-AUG-19 @ 11:11 Matrix: SOIL							
Volatile Organic Compounds							
Trichlorofluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Vinyl chloride	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
o-Xylene	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
m+p-Xylenes	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
Xylenes (Total)	<0.050		0.050	ug/g		25-AUG-19	
Surrogate: 4-Bromofluorobenzene	92.9		50-140	%	22-AUG-19	25-AUG-19	R4768235
Surrogate: 1,4-Difluorobenzene	112.5		50-140	%	22-AUG-19	25-AUG-19	R4768235
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-AUG-19	25-AUG-19	R4768235
F1-BTEX	<5.0		5.0	ug/g		25-AUG-19	
F2 (C10-C16)	<10		10	ug/g	20-AUG-19	21-AUG-19	R4763044
F2-Naphth	<10		10	ug/g		25-AUG-19	
F3 (C16-C34)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
F3-PAH	<50		50	ug/g		25-AUG-19	
F4 (C34-C50)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
Total Hydrocarbons (C6-C50)	<72		72	ug/g		25-AUG-19	
Chrom. to baseline at nC50	YES				20-AUG-19	21-AUG-19	R4763044
Surrogate: 2-Bromobenzotrifluoride	86.9		60-140	%	20-AUG-19	21-AUG-19	R4763044
Surrogate: 3,4-Dichlorotoluene	92.6		60-140	%	22-AUG-19	25-AUG-19	R4768235
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Acenaphthylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(b)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(k)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Chrysene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluorene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		23-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
2-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
Naphthalene	<0.013		0.013	ug/g	20-AUG-19	23-AUG-19	R4766148
Phenanthrene	<0.046		0.046	ug/g	20-AUG-19	23-AUG-19	R4766148
Pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Surrogate: 2-Fluorobiphenyl	95.4		50-140	%	20-AUG-19	23-AUG-19	
Surrogate: p-Terphenyl d14	84.7		50-140	%	20-AUG-19	23-AUG-19	R4766148

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-10 MW109-16-17 Sampled By: ANDREW V on 15-AUG-19 @ 11:20 Matrix: SOIL							
Organic / Inorganic Carbon							
Fraction Organic Carbon Fraction Organic Carbon Fraction Organic Carbon	<0.0010 <0.0010 <0.0010		0.0010 0.0010 0.0010		01-SEP-19 01-SEP-19 01-SEP-19	01-SEP-19 01-SEP-19 01-SEP-19	R4779768 R4779768 R4779768
Average Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon Total Organic Carbon Total Organic Carbon	<0.10 <0.10 <0.10		0.10 0.10 0.10	% % %	01-SEP-19 01-SEP-19 01-SEP-19	01-SEP-19 01-SEP-19 01-SEP-19	R4779768 R4779768 R4779768
L2330748-11 MW109-16-17 Sampled By: ANDREW V on 15-AUG-19 @ 11:20 Matrix: SOIL							
Saturated Paste Extractables							
SAR	5.23		0.10	SAR		05-SEP-19	R4783543
Calcium (Ca)	1.67		0.50	mg/L		05-SEP-19	R4783543
Magnesium (Mg)	0.72		0.50	mg/L		05-SEP-19	R4783543
Sodium (Na)	32.1		0.50	mg/L		05-SEP-19	R4783543
L2330748-12 DUP14 Sampled By: ANDREW V on 15-AUG-19 Matrix: SOIL							
Physical Tests							
Conductivity	0.177		0.0040	mS/cm		27-AUG-19	R4769452
% Moisture	10.7		0.10	%	20-AUG-19	21-AUG-19	R4761888
pH Cyanides	8.00		0.10	pH units		22-AUG-19	R4764361
Cyanide, Weak Acid Diss Saturated Paste Extractables	<0.050		0.050	ug/g	20-AUG-19	22-AUG-19	R4764193
SAR	5.29		0.10	SAR		27-AUG-19	R4769905
Calcium (Ca)	2.80		0.50	mg/L		27-AUG-19	R4769905
Magnesium (Mg)	0.97		0.50	mg/L		27-AUG-19	R4769905
Sodium (Na)	40.3		0.50	mg/L		27-AUG-19	R4769905
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Arsenic (As)	2.3		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Barium (Ba)	41.0		1.0	ug/g	27-AUG-19	27-AUG-19	
Beryllium (Be)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B)	6.8		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B), Hot Water Ext.	<0.10		0.10	ug/g	27-AUG-19	27-AUG-19	R4769778
Cadmium (Cd)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Chromium (Cr)	13.7		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Cobalt (Co)	5.8		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Copper (Cu)	12.0		1.0	ug/g	27-AUG-19	27-AUG-19	
Lead (Pb)	11.2		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Mercury (Hg)	0.0104		0.0050	ug/g	27-AUG-19	27-AUG-19	R4769520
Molybdenum (Mo)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902

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

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Version: FINAL

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-12 DUP14 Sampled By: ANDREW V on 15-AUG-19 Matrix: SOIL							
Metals							
Nickel (Ni)	11.8		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Selenium (Se)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Silver (Ag)	<0.20		0.20	ug/g	27-AUG-19	27-AUG-19	R4769902
Thallium (TI)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Uranium (U)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Vanadium (V)	22.4		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Zinc (Zn)	57.1		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Speciated Metals							
Chromium, Hexavalent Volatile Organic Compounds	<0.20		0.20	ug/g	22-AUG-19	23-AUG-19	R4766888
Acetone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Benzene	<0.0068		0.0068	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromodichloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromoform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromomethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Carbon tetrachloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dibromochloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chloroform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dibromoethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methylene Chloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloropropane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		25-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	22-AUG-19	25-AUG-19	R4768235
n-Hexane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
MTBE	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Styrene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-12 DUP14 Sampled By: ANDREW V on 15-AUG-19 Matrix: SOIL							
Volatile Organic Compounds							
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Tetrachloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Toluene	<0.080		0.080	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Trichloroethylene	<0.010		0.010	ug/g	22-AUG-19	25-AUG-19	R4768235
Trichlorofluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Vinyl chloride	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
o-Xylene	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
m+p-Xylenes	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
Xylenes (Total)	<0.050		0.050	ug/g		25-AUG-19	
Surrogate: 4-Bromofluorobenzene	99.8		50-140	%	22-AUG-19	25-AUG-19	R4768235
Surrogate: 1,4-Difluorobenzene Hydrocarbons	118.2		50-140	%	22-AUG-19	25-AUG-19	R4768235
F1 (C6-C10)	<5.0		5.0	ug/g	22-AUG-19	25-AUG-19	R4768235
F1-BTEX	<5.0		5.0	ug/g		25-AUG-19	
F2 (C10-C16)	<10		10	ug/g	20-AUG-19	21-AUG-19	R4763044
F2-Naphth	<10		10	ug/g		25-AUG-19	
F3 (C16-C34)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
F3-PAH	<50		50	ug/g		25-AUG-19	
F4 (C34-C50)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
Total Hydrocarbons (C6-C50)	<72		72	ug/g		25-AUG-19	
Chrom. to baseline at nC50	YES				20-AUG-19	21-AUG-19	R4763044
Surrogate: 2-Bromobenzotrifluoride	86.3		60-140	%	20-AUG-19	21-AUG-19	R4763044
Surrogate: 3,4-Dichlorotoluene	89.7		60-140	%	22-AUG-19	25-AUG-19	R4768235
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Acenaphthylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(b)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(k)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Chrysene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluorene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		23-AUG-19	
1-Methylnaphthalene	<0.030	1	0.030	ug/g	20-AUG-19	23-AUG-19	R4766148

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-12 DUP14 Sampled By: ANDREW V on 15-AUG-19 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
2-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
Naphthalene	<0.013		0.013	ug/g	20-AUG-19	23-AUG-19	R4766148
Phenanthrene	<0.046		0.046	ug/g	20-AUG-19	23-AUG-19	R4766148
Pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Surrogate: 2-Fluorobiphenyl	95.9		50-140	%	20-AUG-19	23-AUG-19	R4766148
Surrogate: p-Terphenyl d14	84.5		50-140	%	20-AUG-19	23-AUG-19	R4766148
L2330748-13 MW108-12.5-14.5 Sampled By: ANDREW V on 16-AUG-19 @ 09:06 Matrix: SOIL							
Physical Tests							
Conductivity	0.509		0.0040	mS/cm		27-AUG-19	R4769452
% Moisture	11.4		0.10	%	20-AUG-19	21-AUG-19	R4761888
рН	7.69		0.10	pH units		22-AUG-19	R4764361
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	20-AUG-19	22-AUG-19	R4764193
Organic / Inorganic Carbon							
Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon Fraction Organic Carbon	<0.0010 <0.0010		0.0010 0.0010		01-SEP-19 01-SEP-19	01-SEP-19 01-SEP-19	R4779768 R4779768
Average Fraction Organic Carbon	<0.0010		0.0010		01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	<0.10		0.10	%	01-SEP-19	01-SEP-19	R4779768
Saturated Paste Extractables							
SAR	2.51		0.10	SAR		27-AUG-19	
Calcium (Ca)	15.7		0.50	mg/L		27-AUG-19	R4769905
Magnesium (Mg)	6.33		0.50	mg/L		27-AUG-19	R4769905
Sodium (Na)	46.6		0.50	mg/L		27-AUG-19	R4769905
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Arsenic (As)	1.7		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Barium (Ba)	36.6		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Beryllium (Be)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B)	6.6		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B), Hot Water Ext.	0.17		0.10	ug/g	27-AUG-19	27-AUG-19	R4769778
Cadmium (Cd)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Chromium (Cr)	12.1		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Cobalt (Co)	3.9		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Copper (Cu)	10.2		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Lead (Pb)	10.1		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Mercury (Hg)	0.0099		0.0050	ug/g	27-AUG-19	27-AUG-19	R4769520
Molybdenum (Mo)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Nickel (Ni)	8.6		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902

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

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Sample Details/Parameters	Result	Qualifier* D.L.		Units	Extracted	Analyzed	Batch	
L2330748-13 MW108-12.5-14.5 Sampled By: ANDREW V on 16-AUG-19 @ 09:06 Matrix: SOIL								
Metals								
Selenium (Se)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902	
Silver (Ag)	<0.20		0.20	ug/g	27-AUG-19	27-AUG-19	R4769902	
Thallium (TI)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902	
Uranium (U)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902	
Vanadium (V)	20.5		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902	
Zinc (Zn)	55.4		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902	
Speciated Metals								
Chromium, Hexavalent	<0.20		0.20	ug/g	22-AUG-19	23-AUG-19	R4766888	
Volatile Organic Compounds								
Acetone	<0.50		0.50	ug/g	22-AUG-19		R4768235	
Benzene	<0.0068		0.0068	ug/g	22-AUG-19		R4768235	
Bromodichloromethane	<0.050		0.050	ug/g	22-AUG-19		R4768235	
Bromoform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235	
Bromomethane	<0.050		0.050	ug/g	22-AUG-19		R4768235	
Carbon tetrachloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19		
Chlorobenzene	<0.050		0.050	ug/g	22-AUG-19		R4768235	
Dibromochloromethane	<0.050		0.050	ug/g	22-AUG-19		R4768235	
Chloroform	<0.050		0.050	ug/g	22-AUG-19		R4768235	
1,2-Dibromoethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235	
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19		R4768235	
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19		R4768235	
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235	
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-AUG-19		R4768235	
1,1-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235	
1,2-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235	
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19		R4768235	
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19		
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235	
Methylene Chloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235	
1,2-Dichloropropane	<0.050		0.050	ug/g	22-AUG-19			
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235	
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235	
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	22 ALIC 40	25-AUG-19	D 4700005	
Ethylbenzene	<0.018		0.018	ug/g	22-AUG-19		R4768235	
n-Hexane	<0.050		0.050	ug/g	22-AUG-19 22-AUG-19	25-AUG-19	R4768235	
Methyl Icahutyl Ketone	<0.50		0.50	ug/g		25-AUG-19		
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-AUG-19		R4768235	
MTBE	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19		
Styrene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19		
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19		R4768235	
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235	

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-13 MW108-12.5-14.5 Sampled By: ANDREW V on 16-AUG-19 @ 09:06 Matrix: SOIL							
Volatile Organic Compounds							
Tetrachloroethylene	< 0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Toluene	<0.080		0.080	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,2-Trichloroethane	< 0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Trichloroethylene	<0.010		0.010	ug/g	22-AUG-19	25-AUG-19	R4768235
Trichlorofluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Vinyl chloride	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
o-Xylene	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
m+p-Xylenes	< 0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
Xylenes (Total)	< 0.050		0.050	ug/g		25-AUG-19	
Surrogate: 4-Bromofluorobenzene	98.7		50-140	%	22-AUG-19	25-AUG-19	R4768235
Surrogate: 1,4-Difluorobenzene	118.4		50-140	%	22-AUG-19	25-AUG-19	R4768235
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-AUG-19	25-AUG-19	R4768235
F1-BTEX	<5.0		5.0	ug/g		25-AUG-19	
F2 (C10-C16)	<10		10	ug/g	20-AUG-19	21-AUG-19	R4763044
F2-Naphth	<10		10	ug/g		25-AUG-19	
F3 (C16-C34)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
F3-PAH	<50		50	ug/g		25-AUG-19	
F4 (C34-C50)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
Total Hydrocarbons (C6-C50)	<72		72	ug/g		25-AUG-19	
Chrom. to baseline at nC50	YES				20-AUG-19	21-AUG-19	
Surrogate: 2-Bromobenzotrifluoride	83.5		60-140	%	20-AUG-19	21-AUG-19	
Surrogate: 3,4-Dichlorotoluene	86.3		60-140	%	22-AUG-19	25-AUG-19	R4768235
Polycyclic Aromatic Hydrocarbons				,			
Accorate to the second	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Acenaphthylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Benzo(b)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Benzo(k)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Chrysene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Fluorene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	20-AUG-19		R4766148
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		23-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
2-Methylnaphthalene	< 0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-13 MW108-12.5-14.5 Sampled By: ANDREW V on 16-AUG-19 @ 09:06 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
Naphthalene	<0.013		0.013	ug/g	20-AUG-19	23-AUG-19	R4766148
Phenanthrene	<0.046		0.046	ug/g	20-AUG-19	23-AUG-19	R4766148
Pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	
Surrogate: 2-Fluorobiphenyl	97.3		50-140	%	20-AUG-19	23-AUG-19	R4766148
Surrogate: p-Terphenyl d14	85.4		50-140	%	20-AUG-19	23-AUG-19	
L2330748-15 MW108-17.5-19 Sampled By: ANDREW V on 16-AUG-19 @ 09:31 Matrix: SOIL							
Physical Tests							
Conductivity	0.281		0.0040	mS/cm		27-AUG-19	R4769452
% Moisture	8.10		0.10	%	20-AUG-19	21-AUG-19	R4761888
pH	7.98		0.10	pH units		22-AUG-19	R4764361
Cyanides				·			
Cyanide, Weak Acid Diss Organic / Inorganic Carbon	<0.050		0.050	ug/g	20-AUG-19	22-AUG-19	R4764193
Fraction Organic Carbon	0.0019		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	0.0020		0.0010		01-SEP-19	01-SEP-19	R4779768
Fraction Organic Carbon	0.0018		0.0010		01-SEP-19	01-SEP-19	R4779768
Average Fraction Organic Carbon	0.0019		0.0010		01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon	0.19		0.10	%	01-SEP-19	01-SEP-19	R4779768
Total Organic Carbon Total Organic Carbon	0.20 0.18		0.10 0.10	% %	01-SEP-19 01-SEP-19	01-SEP-19 01-SEP-19	R4779768 R4779768
Saturated Paste Extractables	0.10		0.10	70	01-OLI -13	OT-OLI -13	114779700
SAR	2.22		0.10	SAR		27-AUG-19	R4769905
Calcium (Ca)	5.43		0.50	mg/L		27-AUG-19	
Magnesium (Mg)	2.01		0.50	mg/L		27-AUG-19	
Sodium (Na)	23.8		0.50	mg/L		27-AUG-19	R4769905
Metals				3			
Antimony (Sb)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Arsenic (As)	2.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Barium (Ba)	57.2		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Beryllium (Be)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B)	8.8		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Boron (B), Hot Water Ext.	0.13		0.10	ug/g	27-AUG-19	27-AUG-19	
Cadmium (Cd)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	
Chromium (Cr)	18.4		1.0	ug/g	27-AUG-19	27-AUG-19	
Cobalt (Co)	6.2		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Copper (Cu)	14.3		1.0	ug/g	27-AUG-19		R4769902
Lead (Pb)	12.9		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Mercury (Hg)	0.0123		0.0050	ug/g	27-AUG-19	27-AUG-19	R4769520
Molybdenum (Mo)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	
Nickel (Ni)	14.2		1.0	ug/g	27-AUG-19	27-AUG-19	
Selenium (Se)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-15 MW108-17.5-19 Sampled By: ANDREW V on 16-AUG-19 @ 09:31 Matrix: SOIL							
Metals							
Silver (Ag)	<0.20		0.20	ug/g	27-AUG-19	27-AUG-19	R4769902
Thallium (TI)	<0.50		0.50	ug/g	27-AUG-19	27-AUG-19	R4769902
Uranium (U)	<1.0		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Vanadium (V)	27.8		1.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Zinc (Zn)	81.0		5.0	ug/g	27-AUG-19	27-AUG-19	R4769902
Speciated Metals							
Chromium, Hexavalent	0.26		0.20	ug/g	22-AUG-19	23-AUG-19	R4766888
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Benzene	<0.0068		0.0068	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromodichloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromoform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromomethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Carbon tetrachloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dibromochloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chloroform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dibromoethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichlorobenzene 1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-AUG-19 22-AUG-19	25-AUG-19 25-AUG-19	R4768235 R4768235
1,1-Dichloroethane	<0.050 <0.050		0.050 0.050	ug/g	22-AUG-19 22-AUG-19	25-AUG-19 25-AUG-19	R4768235
1,2-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19 22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethylene	<0.050		0.050	ug/g ug/g	22-AUG-19 22-AUG-19		R4768235
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g ug/g	22-AUG-19	25-AUG-19	
Methylene Chloride	<0.050		0.050	ug/g ug/g	22-AUG-19		R4768235
1,2-Dichloropropane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	22 7100 10	25-AUG-19	1147 00200
Ethylbenzene	<0.018		0.018	ug/g	22-AUG-19	25-AUG-19	R4768235
n-Hexane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	
MTBE	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Styrene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Tetrachloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-15 MW108-17.5-19 Sampled By: ANDREW V on 16-AUG-19 @ 09:31 Matrix: SOIL							
Volatile Organic Compounds							
Toluene	<0.080		0.080	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Trichloroethylene	<0.010		0.010	ug/g	22-AUG-19	25-AUG-19	R4768235
Trichlorofluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Vinyl chloride	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
o-Xylene	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	R4768235
m+p-Xylenes	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
Xylenes (Total)	<0.050		0.050	ug/g		25-AUG-19	
Surrogate: 4-Bromofluorobenzene	98.5		50-140	%	22-AUG-19	25-AUG-19	R4768235
Surrogate: 1,4-Difluorobenzene	118.5		50-140	%	22-AUG-19	25-AUG-19	R4768235
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	22-AUG-19	25-AUG-19	R4768235
F1-BTEX	<5.0		5.0	ug/g		25-AUG-19	
F2 (C10-C16)	<10		10	ug/g	20-AUG-19	21-AUG-19	R4763044
F2-Naphth	<10		10	ug/g		25-AUG-19	
F3 (C16-C34)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
F3-PAH	<50		50	ug/g		25-AUG-19	
F4 (C34-C50)	<50		50	ug/g	20-AUG-19	21-AUG-19	R4763044
Total Hydrocarbons (C6-C50)	<72		72	ug/g		25-AUG-19	
Chrom. to baseline at nC50	YES				20-AUG-19	21-AUG-19	R4763044
Surrogate: 2-Bromobenzotrifluoride	107.6		60-140	%	20-AUG-19	21-AUG-19	R4763044
Surrogate: 3,4-Dichlorotoluene	88.9		60-140	%	22-AUG-19	25-AUG-19	R4768235
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Acenaphthylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(a)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(b)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Benzo(k)fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Chrysene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluoranthene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Fluorene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	20-AUG-19	23-AUG-19	R4766148
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		23-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
2-Methylnaphthalene	<0.030		0.030	ug/g	20-AUG-19	23-AUG-19	R4766148
Naphthalene	<0.013	1	0.013	ug/g	20-AUG-19	23-AUG-19	R4766148

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-15 MW108-17.5-19 Sampled By: ANDREW V on 16-AUG-19 @ 09:31 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
Phenanthrene	<0.046		0.046	ug/g	20-AUG-19	23-AUG-19	R4766148
Pyrene	<0.050		0.050	ug/g	20-AUG-19		R4766148
Surrogate: 2-Fluorobiphenyl	94.3		50-140	%	20-AUG-19	23-AUG-19	R4766148
Surrogate: p-Terphenyl d14	84.0		50-140	%	20-AUG-19	23-AUG-19	R4766148
L2330748-18 TRIP BLANK-20190816 Sampled By: ANDREW V on 16-AUG-19 Matrix: SOIL							
Physical Tests							
% Moisture	<0.10		0.10	%	20-AUG-19	21-AUG-19	R4761888
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Benzene	<0.0068		0.0068	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromodichloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromoform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Bromomethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Carbon tetrachloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dibromochloromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Chloroform	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dibromoethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Dichlorodifluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methylene Chloride	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,2-Dichloropropane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	R4768235
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		25-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	22-AUG-19	25-AUG-19	R4768235
n-Hexane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-AUG-19	25-AUG-19	R4768235
МТВЕ	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Styrene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2330748-18 TRIP BLANK-20190816 Sampled By: ANDREW V on 16-AUG-19 Matrix: SOIL							
Volatile Organic Compounds							
Tetrachloroethylene	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	R4768235
Toluene	<0.080		0.080	ug/g	22-AUG-19	25-AUG-19	
1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Trichloroethylene	<0.010		0.010	ug/g	22-AUG-19	25-AUG-19	
Trichlorofluoromethane	<0.050		0.050	ug/g	22-AUG-19	25-AUG-19	
Vinyl chloride	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	
o-Xylene	<0.020		0.020	ug/g	22-AUG-19	25-AUG-19	
m+p-Xylenes	<0.030		0.030	ug/g	22-AUG-19	25-AUG-19	
Xylenes (Total)	<0.050		0.050	ug/g		25-AUG-19	111100200
Surrogate: 4-Bromofluorobenzene	97.7		50-140	%	22-AUG-19	25-AUG-19	R4768235
Surrogate: 1,4-Difluorobenzene	116.4		50-140	%	22-AUG-19	25-AUG-19	
Hydrocarbons	110.4		30 140	/0	22 7.00 10	207100 10	114700200
F1 (C6-C10)	<5.0		5.0	ug/g	22-AUG-19	25-AUG-19	R4768235
Surrogate: 3,4-Dichlorotoluene	87.8		60-140	%	22-AUG-19	25-AUG-19	

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

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Reference Information

Sample Parameter Qualifier key listed:

Qualifier Description

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).

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

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).

CR-CR6-IC-WT 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 CCME CWS-PHC, Pub #1310, Dec 2001-S **Parameters**

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-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), 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** L2330748 CONTD.... PAGE 26 of 27

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Reference Information

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 quideline for F4.
- 7. F4G-sq 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), 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 200.2/6020A (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 technique is 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(i)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), 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).

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).

TOC-R511-WT Soil TOC & FOC-O.Reg 153/04 (July CARTER 21.3.2

2011)

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).

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Reference Information

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), 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-

Soil

Sum of Xylene Isomer

CALCULATION

Concentrations

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.



Workorder: L2330748 Report Date: 06-SEP-19 Page 1 of 22

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix Refe	erence	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	Soil							
Batch R4769645 WG3144202-4 DUP Boron (B), Hot Water Ex	-	31567-19	0.11		ug/g	6.5	30	27-AUG-19
WG3144202-2 IRM Boron (B), Hot Water Ex		SAR3	89.2		%		70-130	27-AUG-19
WG3144202-3 LCS Boron (B), Hot Water Ex	t.		95.1		%		70-130	27-AUG-19
WG3144202-1 MB Boron (B), Hot Water Ex	t.		<0.10		ug/g		0.1	27-AUG-19
Batch R4769778								
WG3144340-4 DUP Boron (B), Hot Water Ex	_	31567-9 2	0.13		ug/g	2.2	30	27-AUG-19
WG3144340-2 IRM Boron (B), Hot Water Ex		SAR3	108.4		%		70-130	27-AUG-19
WG3144340-3 LCS Boron (B), Hot Water Ex	t.		89.8		%		70-130	27-AUG-19
WG3144340-1 MB Boron (B), Hot Water Ex	t.		<0.10		ug/g		0.1	27-AUG-19
CN-WAD-R511-WT	Soil							
Batch R4764193								
WG3138396-3 DUP Cyanide, Weak Acid Dis		30594-4 050	<0.050	RPD-NA	ug/g	N/A	35	22-AUG-19
WG3138396-2 LCS Cyanide, Weak Acid Dis	s		97.1		%		80-120	22-AUG-19
WG3138396-1 MB Cyanide, Weak Acid Dis	s		<0.050		ug/g		0.05	22-AUG-19
WG3138396-4 MS Cyanide, Weak Acid Dis		30594-4	103.0		%		70-130	22-AUG-19
CR-CR6-IC-WT	Soil							
Batch R4765750								
WG3140311-4 CRM Chromium, Hexavalent	WT	-SQC012	106.2		%		70-130	23-AUG-19
WG3140311-3 DUP Chromium, Hexavalent	L23 0.26	30594-1	0.28		ug/g	7.6	35	23-AUG-19
WG3140311-2 LCS Chromium, Hexavalent			98.7		%		80-120	23-AUG-19
WG3140311-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	23-AUG-19



Workorder: L2330748 Report Date: 06-SEP-19 Page 2 of 22

CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CR-CR6-IC-WT	Soil							
Batch R4766888 WG3140702-4 CRM Chromium, Hexavalent		WT-SQC012	107.5		%		70-130	23-AUG-19
WG3140702-3 DUP Chromium, Hexavalent		L2330398-2 <0.20	<0.20	RPD-NA	ug/g	N/A	35	23-AUG-19
WG3140702-2 LCS Chromium, Hexavalent			97.9		%		80-120	23-AUG-19
WG3140702-1 MB Chromium, Hexavalent			<0.20		ug/g		0.2	23-AUG-19
EC-WT	Soil							
Batch R4769452								
WG3144061-4 DUP Conductivity		WG3144061-3 0.394	0.393		mS/cm	0.3	20	27-AUG-19
WG3144061-2 IRM Conductivity		WT SAR3	86.5		%		70-130	27-AUG-19
WG3144248-1 LCS Conductivity			98.7		%		90-110	27-AUG-19
WG3144061-1 MB Conductivity			<0.0040		mS/cm		0.004	27-AUG-19
Batch R4769855								
WG3144328-4 DUP Conductivity		WG3144328-3 0.407	0.385		mS/cm	5.6	20	27-AUG-19
WG3144328-2 IRM Conductivity		WT SAR3	96.6		%		70-130	27-AUG-19
WG3144804-1 LCS Conductivity			97.7		%		90-110	27-AUG-19
WG3144328-1 MB Conductivity			<0.0040		mS/cm		0.004	27-AUG-19
Batch R4784415								
WG3152286-4 DUP Conductivity		WG3152286-3 1.08	1.09		mS/cm	0.5	20	06-SEP-19
WG3152286-2 IRM Conductivity		WT SAR3	94.8		%		70-130	06-SEP-19
WG3152539-1 LCS Conductivity			99.4		%		90-110	06-SEP-19
WG3152286-1 MB Conductivity			<0.0040		mS/cm		0.004	06-SEP-19
F1-HS-511-WT	Soil							



Workorder: L2330748 Report Date: 06-SEP-19 Page 3 of 22

CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT		Soil							
Batch R4	768161								
WG3141159-4 F1 (C6-C10)	DUP		WG3141159-3 <5.0	<5.0	RPD-NA	ug/g	N/A	30	25-AUG-19
WG3141159-2 F1 (C6-C10)	LCS			107.9		%		80-120	25-AUG-19
WG3141159-1 F1 (C6-C10)	MB			<5.0		ug/g		5	25-AUG-19
Surrogate: 3,4-	Dichloroto	oluene		91.1		%		60-140	25-AUG-19
WG3141159-6 F1 (C6-C10)	MS		L2328794-28	83.4		%		60-140	25-AUG-19
Batch R4	768235								
WG3139896-4	DUP		WG3139896-3						
F1 (C6-C10)			<5.0	<5.0	RPD-NA	ug/g	N/A	30	25-AUG-19
WG3139896-2 F1 (C6-C10)	LCS			113.6		%		80-120	25-AUG-19
WG3139896-1 F1 (C6-C10)	MB			<5.0		ug/g		5	25-AUG-19
Surrogate: 3,4-	Dichloroto	oluene		102.2		%		60-140	25-AUG-19
WG3139896-6 F1 (C6-C10)	MS		L2330748-15	101.6		%		60-140	25-AUG-19
F2-F4-511-WT		Soil							
Batch R4	1763044								
WG3138351-3 F2 (C10-C16)	DUP		WG3138351-5 <10	<10	RPD-NA	ug/g	N/A	30	21-AUG-19
F3 (C16-C34)			<50	<50	RPD-NA	ug/g	N/A	30	21-AUG-19
F4 (C34-C50)			<50	<50	RPD-NA	ug/g	N/A	30	21-AUG-19
WG3138351-2 F2 (C10-C16)	LCS			101.6		%		80-120	21-AUG-19
F3 (C16-C34)				98.0		%		80-120	21-AUG-19
F4 (C34-C50)				100.6		%		80-120	21-AUG-19
WG3138351-1 F2 (C10-C16)	MB			<10		ug/g		10	21-AUG-19
F3 (C16-C34)				<50		ug/g		50	21-AUG-19
F4 (C34-C50)				<50		ug/g		50	21-AUG-19
Surrogate: 2-Br	omobenz	otrifluoride		82.3		%		60-140	21-AUG-19
WG3138351-4	MS		WG3138351-5						
F2 (C10-C16)				100.0		%		60-140	21-AUG-19
F3 (C16-C34)				98.6		%		60-140	21-AUG-19



Workorder: L2330748 Report Date: 06-SEP-19 Page 4 of 22

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	Soil							
Batch R4763044 WG3138351-4 MS F4 (C34-C50)		WG3138351-5	101.2		%		60-140	21-AUG-19
HG-200.2-CVAA-WT	Soil							
Batch R4769520								
WG3144042-2 CRM Mercury (Hg)		WT-CANMET-	TILL1 95.4		%		70-130	27-AUG-19
WG3144042-6 DUP Mercury (Hg)		WG3144042-5 0.0141	0.0144		ug/g	2.5	40	27-AUG-19
WG3144042-3 LCS Mercury (Hg)			98.0		%		80-120	27-AUG-19
WG3144042-1 MB Mercury (Hg)			<0.0050		mg/kg		0.005	27-AUG-19
MET-200.2-CCMS-WT	Soil							
Batch R4769902								
WG3144042-2 CRM		WT-CANMET-			0/		70.400	07.4110.40
Antimony (Sb) Arsenic (As)			93.9 93.0		%		70-130	27-AUG-19
Barium (Ba)			96.8		%		70-130	27-AUG-19
Beryllium (Be)			95.5		%		70-130	27-AUG-19
Boron (B)			95.5 2.7		mg/kg		70-130	27-AUG-19
Cadmium (Cd)			92.2		//////////////////////////////////////		0-8.2	27-AUG-19
Chromium (Cr)			93.6		%		70-130 70-130	27-AUG-19
Cobalt (Co)			92.7		%		70-130	27-AUG-19 27-AUG-19
Copper (Cu)			94.8		%		70-130	27-AUG-19 27-AUG-19
Lead (Pb)			92.4		%		70-130	27-AUG-19 27-AUG-19
Molybdenum (Mo)			94.7		%		70-130	27-AUG-19
Nickel (Ni)			93.0		%		70-130	27-AUG-19
Selenium (Se)			0.32		mg/kg		0.11-0.51	27-AUG-19
Silver (Ag)			0.22		mg/kg		0.13-0.33	27-AUG-19
Thallium (TI)			0.111		mg/kg		0.077-0.18	27-AUG-19
Uranium (U)			91.8		%		70-130	27-AUG-19
Vanadium (V)			93.5		%		70-130	27-AUG-19
Zinc (Zn)			92.1		%		70-130	27-AUG-19
WG3144042-6 DUP Antimony (Sb)		WG3144042-5 <0.10	<0.10	RPD-NA	ug/g	N/A	30	27-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4769902								
WG3144042-6 DUP		WG3144042-5			,			
Arsenic (As)		2.33	2.24		ug/g	3.9	30	27-AUG-19
Barium (Ba)		54.9	52.3		ug/g	4.9	40	27-AUG-19
Beryllium (Be)		0.43	0.41		ug/g	3.7	30	27-AUG-19
Boron (B)		7.5	7.0		ug/g	6.4	30	27-AUG-19
Cadmium (Cd)		0.074	0.069		ug/g	7.2	30	27-AUG-19
Chromium (Cr)		14.9	14.0		ug/g	5.8	30	27-AUG-19
Cobalt (Co)		6.07	5.69		ug/g	6.4	30	27-AUG-19
Copper (Cu)		11.5	11.1		ug/g	3.5	30	27-AUG-19
Lead (Pb)		6.58	6.27		ug/g	4.9	40	27-AUG-19
Molybdenum (Mo)		0.32	0.35		ug/g	11	40	27-AUG-19
Nickel (Ni)		13.0	12.3		ug/g	5.0	30	27-AUG-19
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	27-AUG-19
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	27-AUG-19
Thallium (TI)		0.125	0.115		ug/g	8.3	30	27-AUG-19
Uranium (U)		0.507	0.473		ug/g	6.9	30	27-AUG-19
Vanadium (V)		25.5	24.2		ug/g	5.3	30	27-AUG-19
Zinc (Zn)		30.4	29.4		ug/g	3.3	30	27-AUG-19
WG3144042-4 LCS								
Antimony (Sb)			105.6		%		80-120	27-AUG-19
Arsenic (As)			104.1		%		80-120	27-AUG-19
Barium (Ba)			105.9		%		80-120	27-AUG-19
Beryllium (Be)			103.1		%		80-120	27-AUG-19
Boron (B)			99.9		%		80-120	27-AUG-19
Cadmium (Cd)			102.5		%		80-120	27-AUG-19
Chromium (Cr)			104.6		%		80-120	27-AUG-19
Cobalt (Co)			102.3		%		80-120	27-AUG-19
Copper (Cu)			102.2		%		80-120	27-AUG-19
Lead (Pb)			104.1		%		80-120	27-AUG-19
Molybdenum (Mo)			108.8		%		80-120	27-AUG-19
Nickel (Ni)			103.3		%		80-120	27-AUG-19
Selenium (Se)			103.7		%		80-120	27-AUG-19
Silver (Ag)			106.2		%		80-120	27-AUG-19
Thallium (TI)			100.1		%		80-120	27-AUG-19



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CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4769902								
WG3144042-4 LCS					0.4			
Uranium (U)			105.4		%		80-120	27-AUG-19
Vanadium (V)			106.9		%		80-120	27-AUG-19
Zinc (Zn)			102.0		%		80-120	27-AUG-19
WG3144042-1 MB Antimony (Sb)			<0.10		mg/kg		0.1	27-AUG-19
Arsenic (As)			<0.10		mg/kg		0.1	27-AUG-19
Barium (Ba)			<0.50		mg/kg		0.5	27-AUG-19
Beryllium (Be)			<0.10		mg/kg		0.1	27-AUG-19
Boron (B)			<5.0		mg/kg		5	27-AUG-19
Cadmium (Cd)			<0.020		mg/kg		0.02	27-AUG-19
Chromium (Cr)			<0.50		mg/kg		0.5	27-AUG-19
Cobalt (Co)			<0.10		mg/kg		0.1	27-AUG-19
Copper (Cu)			<0.50		mg/kg		0.5	27-AUG-19
Lead (Pb)			<0.50		mg/kg		0.5	27-AUG-19
Molybdenum (Mo)			<0.10		mg/kg		0.1	27-AUG-19
Nickel (Ni)			<0.50		mg/kg		0.5	27-AUG-19
Selenium (Se)			<0.20		mg/kg		0.2	27-AUG-19
Silver (Ag)			<0.10		mg/kg		0.1	27-AUG-19
Thallium (TI)			< 0.050		mg/kg		0.05	27-AUG-19
Uranium (U)			< 0.050		mg/kg		0.05	27-AUG-19
Vanadium (V)			<0.20		mg/kg		0.2	27-AUG-19
Zinc (Zn)			<2.0		mg/kg		2	27-AUG-19
MOISTURE-WT	Soil							
Batch R4761888								
WG3138152-3 DUP		L2330748-1						
% Moisture		10.8	10.8		%	0.7	20	21-AUG-19
WG3138152-2 LCS % Moisture			100.0		%		90-110	21-AUG-19
WG3138152-1 MB % Moisture			<0.10		%		0.1	21-AUG-19
PAH-511-WT	Soil							
Batch R4766148 WG3138048-3 DUP 1-Methylnaphthalene		WG3138048-5 <0.030	<0.030	RPD-NA	ug/g	N/A	40	23-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4766148								
WG3138048-3 DUP		WG3138048-	5					
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	23-AUG-19
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Acenaphthylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Anthracene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Benzo(a)anthracene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Benzo(a)pyrene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Benzo(b)fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Benzo(g,h,i)perylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Chrysene		< 0.050	<0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Dibenzo(ah)anthracene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Fluorene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Indeno(1,2,3-cd)pyrene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	23-AUG-19
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	23-AUG-19
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	23-AUG-19
WG3138048-2 LCS								
1-Methylnaphthalene			101.4		%		50-140	23-AUG-19
2-Methylnaphthalene			96.5		%		50-140	23-AUG-19
Acenaphthene			103.4		%		50-140	23-AUG-19
Acenaphthylene			106.6		%		50-140	23-AUG-19
Anthracene			103.6		%		50-140	23-AUG-19
Benzo(a)anthracene			105.3		%		50-140	23-AUG-19
Benzo(a)pyrene			102.0		%		50-140	23-AUG-19
Benzo(b)fluoranthene			102.3		%		50-140	23-AUG-19
Benzo(g,h,i)perylene			100.2		%		50-140	23-AUG-19
Benzo(k)fluoranthene			99.7		%		50-140	23-AUG-19
Chrysene			107.6		%		50-140	23-AUG-19
Dibenzo(ah)anthracene			100.5		%		50-140	23-AUG-19
Fluoranthene			101.2		%		50-140	23-AUG-19
Fluorene			101.7		%		50-140	23-AUG-19
Indeno(1,2,3-cd)pyrene			104.8		%		50-140	23-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4766148								
WG3138048-2 LCS Naphthalene			99.6		%		50.440	00 1110 10
Phenanthrene			103.7		%		50-140	23-AUG-19
Pyrene			103.7		%		50-140	23-AUG-19
WG3138048-1 MB			101.5		70		50-140	23-AUG-19
1-Methylnaphthalene			<0.030		ug/g		0.03	23-AUG-19
2-Methylnaphthalene			<0.030		ug/g		0.03	23-AUG-19
Acenaphthene			<0.050		ug/g		0.05	23-AUG-19
Acenaphthylene			<0.050		ug/g		0.05	23-AUG-19
Anthracene			<0.050		ug/g		0.05	23-AUG-19
Benzo(a)anthracene			<0.050		ug/g		0.05	23-AUG-19
Benzo(a)pyrene			<0.050		ug/g		0.05	23-AUG-19
Benzo(b)fluoranthene			<0.050		ug/g		0.05	23-AUG-19
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	23-AUG-19
Benzo(k)fluoranthene			<0.050		ug/g		0.05	23-AUG-19
Chrysene			<0.050		ug/g		0.05	23-AUG-19
Dibenzo(ah)anthracene			<0.050		ug/g		0.05	23-AUG-19
Fluoranthene			<0.050		ug/g		0.05	23-AUG-19
Fluorene			<0.050		ug/g		0.05	23-AUG-19
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	23-AUG-19
Naphthalene			<0.013		ug/g		0.013	23-AUG-19
Phenanthrene			<0.046		ug/g		0.046	23-AUG-19
Pyrene			<0.050		ug/g		0.05	23-AUG-19
Surrogate: 2-Fluorobiphe	enyl		95.0		%		50-140	23-AUG-19
Surrogate: p-Terphenyl d	114		82.5		%		50-140	23-AUG-19
WG3138048-4 MS		WG3138048-5						
1-Methylnaphthalene			101.1		%		50-140	23-AUG-19
2-Methylnaphthalene			95.6		%		50-140	23-AUG-19
Acenaphthene			104.1		%		50-140	23-AUG-19
Acenaphthylene			106.2		%		50-140	23-AUG-19
Anthracene			102.2		%		50-140	23-AUG-19
Benzo(a)anthracene			107.2		%		50-140	23-AUG-19
Benzo(a)pyrene			102.2		%		50-140	23-AUG-19
Benzo(b)fluoranthene			102.0		%		50-140	23-AUG-19
Benzo(g,h,i)perylene			99.1		%		50-140	23-AUG-19



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CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4766148 WG3138048-4 MS		WG3138048-						
Benzo(k)fluoranthene			101.0		%		50-140	23-AUG-19
Chrysene			107.9		%		50-140	23-AUG-19
Dibenzo(ah)anthracene			100.2		%		50-140	23-AUG-19
Fluoranthene			103.5		%		50-140	23-AUG-19
Fluorene			102.8		%		50-140	23-AUG-19
Indeno(1,2,3-cd)pyrene			105.4		%		50-140	23-AUG-19
Naphthalene			98.8		%		50-140	23-AUG-19
Phenanthrene			103.7		%		50-140	23-AUG-19
Pyrene			103.1		%		50-140	23-AUG-19
PH-WT	Soil							
Batch R4764361 WG3138423-1 DUP pH		L2330718-2 7.28	7.28	J	pH units	0.00	0.3	22-AUG-19
WG3140006-1 LCS pH		0	6.97	Ü	pH units	0.00	6.9-7.1	22-AUG-19
SAR-R511-WT	Soil							
Batch R4769897								
WG3144328-4 DUP Calcium (Ca)		WG3144328- 16.1	3 17.1		mg/L	6.0	30	27-AUG-19
Sodium (Na)		56.2	57.6		mg/L	2.5	30	27-AUG-19
Magnesium (Mg)		1.49	1.55		mg/L	3.9	30	27-AUG-19
WG3144328-2 IRM Calcium (Ca)		WT SAR3	98.2		%		70-130	27-AUG-19
Sodium (Na)			104.0		%		70-130	27-AUG-19
Magnesium (Mg)			100.0		%		70-130	27-AUG-19
WG3144328-5 LCS								
Calcium (Ca)			104.7		%		70-130	27-AUG-19
Sodium (Na)			100.6		%		70-130	27-AUG-19
Magnesium (Mg)			100.4		%		70-130	27-AUG-19
WG3144328-1 MB Calcium (Ca)			<0.50		mg/L		0.5	27-AUG-19
Sodium (Na)			<0.50		mg/L		0.5	27-AUG-19
Magnesium (Mg)			<0.50		mg/L		0.5	27-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT	Soil							
Batch R476990)5							
WG3144061-4 DUF Calcium (Ca)	•	WG3144061-3 1.83	2.16		mg/L	17	30	27-AUG-19
Sodium (Na)		86.3	88.1		mg/L	2.1	30	27-AUG-19
Magnesium (Mg)		<0.50	<0.50	RPD-NA	mg/L	N/A	30	27-AUG-19
WG3144061-2 IRM Calcium (Ca)		WT SAR3	83.9		%		70-130	27-AUG-19
Sodium (Na)			92.3		%		70-130	27-AUG-19
Magnesium (Mg)			84.9		%		70-130	27-AUG-19
WG3144061-5 LCS Calcium (Ca)	3		105.3		%		70-130	27-AUG-19
Sodium (Na)			101.6		%		70-130	27-AUG-19
Magnesium (Mg)			100.8		%		70-130	27-AUG-19
WG3144061-1 MB Calcium (Ca)			<0.50		mg/L		0.5	27-AUG-19
Sodium (Na)			<0.50		mg/L		0.5	27-AUG-19
Magnesium (Mg)			<0.50		mg/L		0.5	27-AUG-19
Batch R478354	13							
WG3152286-4 DUF Calcium (Ca)		WG3152286-3 12.7	12.9		mg/L	1.6	30	05-SEP-19
Sodium (Na)		199	198		mg/L	0.5	30	05-SEP-19
Magnesium (Mg)		3.27	3.33		mg/L	1.8	30	05-SEP-19
WG3152286-2 IRM		WT SAR3						
Calcium (Ca)			83.5		%		70-130	05-SEP-19
Sodium (Na)			95.4		%		70-130	05-SEP-19
Magnesium (Mg)			89.8		%		70-130	05-SEP-19
WG3152286-5 LCS Calcium (Ca)	;		102.0		%		70-130	05-SEP-19
Sodium (Na)			101.0		%		70-130	05-SEP-19
Magnesium (Mg)			100.2		%		70-130	05-SEP-19
WG3152286-1 MB Calcium (Ca)			<0.50		mg/L		0.5	05-SEP-19
Sodium (Na)			<0.50		mg/L		0.5	05-SEP-19
Magnesium (Mg)			<0.50		mg/L		0.5	05-SEP-19 05-SEP-19
TOC BE11 WT	Soil				J			55 02. 10

TOC-R511-WT Soil



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CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
TOC-R511-WT	Soil							
Batch R4779768 WG3149754-3 CRM Total Organic Carbon		WT-TOC-CRM	97.7		%		70-130	01-SEP-19
WG3149754-4 DUP Total Organic Carbon		L2330748-1 <0.10	<0.10	RPD-NA	%	N/A	35	01-SEP-19
WG3149754-2 LCS Total Organic Carbon			104.1		%		80-120	01-SEP-19
Total Organic Carbon			104.1		%		80-120	01-SEP-19
Total Organic Carbon			104.1		%		80-120	01-SEP-19
WG3149754-1 MB Total Organic Carbon			<0.10		%		0.1	01-SEP-19
VOC-511-HS-WT	Soil							
Batch R4768161								
WG3141159-4 DUP		WG3141159-3						
1,1,1,2-Tetrachloroetha		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,1,2,2-Tetrachloroetha	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,2-Dichloroethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	26-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	26-AUG-19
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
cis-1,2-Dichloroethylene)	<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
cis-1,3-Dichloropropene)	<0.030	<0.030	RPD-NA	ug/g	N/A	40	26-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Dibromochloromethane < < Dichlorodifluoromethane < Ethylbenzene < n-Hexane <	/G3141159-3 0.050 0.050 0.018	<0.050	RPD-NA				
WG3141159-4 DUP Dibromochloromethane Dichlorodifluoromethane Ethylbenzene n-Hexane	0.050 0.050		PDD NA				
Dibromochloromethane < Company of the Company of th	0.050 0.050		DDD NA				
Dichlorodifluoromethane <	0.050		אוא ססס	,			
Ethylbenzene < <ne>n-Hexane <</ne>				ug/g	N/A	40	26-AUG-19
n-Hexane <	በ በ1ጸ	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
		<0.018	RPD-NA	ug/g	N/A	40	26-AUG-19
Methylene Chloride	0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
•	0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
MTBE <	0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
m+p-Xylenes <	0.030	<0.030	RPD-NA	ug/g	N/A	40	26-AUG-19
Methyl Ethyl Ketone <0	0.50	<0.50	RPD-NA	ug/g	N/A	40	26-AUG-19
Methyl Isobutyl Ketone <	0.50	<0.50	RPD-NA	ug/g	N/A	40	26-AUG-19
o-Xylene <	0.020	<0.020	RPD-NA	ug/g	N/A	40	26-AUG-19
Styrene <	0.050	< 0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
Tetrachloroethylene <	0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
Toluene <	0.080	<0.080	RPD-NA	ug/g	N/A	40	26-AUG-19
trans-1,2-Dichloroethylene <	0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
trans-1,3-Dichloropropene <	0.030	<0.030	RPD-NA	ug/g	N/A	40	26-AUG-19
Trichloroethylene <	0.010	<0.010	RPD-NA	ug/g	N/A	40	26-AUG-19
Trichlorofluoromethane <	0.050	<0.050	RPD-NA	ug/g	N/A	40	26-AUG-19
Vinyl chloride <	0.020	<0.020	RPD-NA	ug/g	N/A	40	26-AUG-19
WG3141159-2 LCS							
1,1,1,2-Tetrachloroethane		108.7		%		60-130	26-AUG-19
1,1,2,2-Tetrachloroethane		115.1		%		60-130	26-AUG-19
1,1,1-Trichloroethane		100.0		%		60-130	26-AUG-19
1,1,2-Trichloroethane		106.3		%		60-130	26-AUG-19
1,1-Dichloroethane		101.6		%		60-130	26-AUG-19
1,1-Dichloroethylene		90.8		%		60-130	26-AUG-19
1,2-Dibromoethane		107.3		%		70-130	26-AUG-19
1,2-Dichlorobenzene		105.6		%		70-130	26-AUG-19
1,2-Dichloroethane		107.0		%		60-130	26-AUG-19
1,2-Dichloropropane		105.0		%		70-130	26-AUG-19
1,3-Dichlorobenzene		101.6		%		70-130	26-AUG-19
1,4-Dichlorobenzene		101.7		%		70-130	26-AUG-19
Acetone		108.7		%		60-140	26-AUG-19
Benzene		105.5		%		70-130	26-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4768161	l							
WG3141159-2 LCS Bromodichloromethane			106.2		0/		50.440	00 410 40
Bromoform)		106.3 114.9		%		50-140	26-AUG-19
Bromomethane			89.4				70-130	26-AUG-19
Carbon tetrachloride					%		50-140	26-AUG-19
			101.5		%		70-130	26-AUG-19
Chlorobenzene			107.2		%		70-130	26-AUG-19
Chloroform	_		104.9		%		70-130	26-AUG-19
cis-1,2-Dichloroethylen			101.9		%		70-130	26-AUG-19
cis-1,3-Dichloropropen			112.7		%		70-130	26-AUG-19
Dibromochloromethane			108.5		%		60-130	26-AUG-19
Dichlorodifluoromethan	ie		50.0		%		50-140	26-AUG-19
Ethylbenzene			99.5		%		70-130	26-AUG-19
n-Hexane			83.2		%		70-130	26-AUG-19
Methylene Chloride			103.2		%		70-130	26-AUG-19
MTBE			102.5		%		70-130	26-AUG-19
m+p-Xylenes			103.5		%		70-130	26-AUG-19
Methyl Ethyl Ketone			107.1		%		60-140	26-AUG-19
Methyl Isobutyl Ketone			103.3		%		60-140	26-AUG-19
o-Xylene			102.3		%		70-130	26-AUG-19
Styrene			102.4		%		70-130	26-AUG-19
Tetrachloroethylene			102.9		%		60-130	26-AUG-19
Toluene			102.7		%		70-130	26-AUG-19
trans-1,2-Dichloroethyle	ene		95.2		%		60-130	26-AUG-19
trans-1,3-Dichloroprope	ene		111.2		%		70-130	26-AUG-19
Trichloroethylene			103.4		%		60-130	26-AUG-19
Trichlorofluoromethane)		93.0		%		50-140	26-AUG-19
Vinyl chloride			90.0		%		60-140	26-AUG-19
WG3141159-1 MB								
1,1,1,2-Tetrachloroetha			<0.050		ug/g		0.05	26-AUG-19
1,1,2,2-Tetrachloroetha	ane		<0.050		ug/g		0.05	26-AUG-19
1,1,1-Trichloroethane			<0.050		ug/g		0.05	26-AUG-19
1,1,2-Trichloroethane			<0.050		ug/g		0.05	26-AUG-19
1,1-Dichloroethane			<0.050		ug/g		0.05	26-AUG-19
1,1-Dichloroethylene			<0.050		ug/g		0.05	26-AUG-19
1,2-Dibromoethane			<0.050		ug/g		0.05	26-AUG-19



Workorder: L2330748 Report Date: 06-SEP-19 Page 14 of 22

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4768161								
WG3141159-1 MB 1,2-Dichlorobenzene			-0.0E0		uala		0.05	00 4110 10
1,2-Dichloroethane			<0.050 <0.050		ug/g		0.05	26-AUG-19
			<0.050		ug/g		0.05	26-AUG-19
1,2-Dichloropropane			<0.050		ug/g		0.05	26-AUG-19
1,3-Dichlorobenzene					ug/g		0.05	26-AUG-19
1,4-Dichlorobenzene Acetone			<0.050		ug/g		0.05	26-AUG-19
Benzene			<0.50		ug/g		0.0068	26-AUG-19
			<0.0068		ug/g			26-AUG-19
Bromodichloromethane			<0.050		ug/g		0.05	26-AUG-19
Bromoform			<0.050		ug/g		0.05	26-AUG-19
Bromomethane			<0.050		ug/g		0.05	26-AUG-19
Carbon tetrachloride			<0.050		ug/g		0.05	26-AUG-19
Chlorobenzene			<0.050		ug/g		0.05	26-AUG-19
Chloroform	_		<0.050		ug/g		0.05	26-AUG-19
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	26-AUG-19
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	26-AUG-19
Dibromochloromethane			<0.050		ug/g		0.05	26-AUG-19
Dichlorodifluoromethan	e		<0.050		ug/g		0.05	26-AUG-19
Ethylbenzene			<0.018		ug/g		0.018	26-AUG-19
n-Hexane			<0.050		ug/g		0.05	26-AUG-19
Methylene Chloride			<0.050		ug/g		0.05	26-AUG-19
MTBE			<0.050		ug/g		0.05	26-AUG-19
m+p-Xylenes			<0.030		ug/g		0.03	26-AUG-19
Methyl Ethyl Ketone			<0.50		ug/g		0.5	26-AUG-19
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	26-AUG-19
o-Xylene			<0.020		ug/g		0.02	26-AUG-19
Styrene			<0.050		ug/g		0.05	26-AUG-19
Tetrachloroethylene			<0.050		ug/g		0.05	26-AUG-19
Toluene			<0.080		ug/g		0.08	26-AUG-19
trans-1,2-Dichloroethyle			<0.050		ug/g		0.05	26-AUG-19
trans-1,3-Dichloroprope	ene		<0.030		ug/g		0.03	26-AUG-19
Trichloroethylene			<0.010		ug/g		0.01	26-AUG-19
Trichlorofluoromethane			<0.050		ug/g		0.05	26-AUG-19
Vinyl chloride			<0.020		ug/g		0.02	26-AUG-19



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Sath R4768161 Sath R4768161 Sath R4768161 Sath R4768161 Sath R4768161 Sath S	Test N	Matrix F	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
WG3141159-1 MB Surrogate: 1,4-Diffuorobenzene 93,1 % 50-140 26-AUG-19 26-AUG	VOC-511-HS-WT	Soil							
Surrogate: 14-Difluorobenzene 102.9 % 50-140 26-AUG-19	Batch R4768161								
Surrogate: 4-Bromofluorobenzene 93.1 % 50-140 26-AUG-19				400.0		0/		50.440	
WG3141159-5 MS L2330748-6 1.1,1.2-Tetrachloroethane 114.1 % 50.140 26-AUG-19 1.1,1.2-Tetrachloroethane 105.9 % 50.140 26-AUG-19 1.1,1-Trichloroethane 105.9 % 50.140 26-AUG-19 1.1,1-Trichloroethane 106.6 % 50.140 26-AUG-19 1.1-Dichloroethane 106.6 % 50.140 26-AUG-19 1.1-Dichloroethane 114.2 % 50.140 26-AUG-19 1.2-Dichloroethane 114.2 % 50.140 26-AUG-19 1.2-Dichloroethane 117.4 % 50.140 26-AUG-19 1.2-Dichloroethane 112.4 % 50.140 26-AUG-19 1.2-Dichloroethane 112.4 % 50.140 26-AUG-19 1.2-Dichloroethane 109.7 % 50.140 26-AUG-19 1.2-Dichloroethane 100.9 % 50.140 26-AUG-19 1.4-Dichloroethane 100.9 % 50.140 26-AUG-19	-								
1,1,1,2-Tetrachloroethane 114,1 % 50-140 26-AUG-19 1,1,2,2-Tetrachloroethane 120,5 % 50-140 26-AUG-19 1,1,1-Trichloroethane 105,9 % 50-140 26-AUG-19 1,1,2-Trichloroethane 113,1 % 50-140 26-AUG-19 1,1-Dichloroethylene 93,4 % 50-140 26-AUG-19 1,2-Dichloroethylene 93,4 % 50-140 26-AUG-19 1,2-Dichloroethylene 114,2 % 50-140 26-AUG-19 1,2-Dichloroethylene 114,2 % 50-140 26-AUG-19 1,2-Dichloroethylene 112,4 % 50-140 26-AUG-19 1,2-Dichloroethylene 119,7 % 50-140 26-AUG-19 1,2-Dichloropropane 109,7 % 50-140 26-AUG-19 1,3-Dichlorobenzene 100,9 % 50-140 26-AUG-19 1,4-Dichlorobenzene 100,9 % 50-140 26-AUG-19 Acetone 120,5 % 50-140 26-AUG-19 Bromodichloromethane 109,1 % <td>_</td> <td></td> <td></td> <td>93.1</td> <td></td> <td>%</td> <td></td> <td>50-140</td> <td>26-AUG-19</td>	_			93.1		%		50-140	26-AUG-19
1.1,2,2-Tetrachloroethane 120.5 % 50-140 26-AUG-19 1.1,1-Trichloroethane 105.9 % 50-140 26-AUG-19 1.1,2-Trichloroethane 113.1 % 50-140 26-AUG-19 1.1-Dichloroethylene 93.4 % 50-140 26-AUG-19 1.2-Dibromoethane 114.2 % 50-140 26-AUG-19 1.2-Dichlorobenzene 107.4 % 50-140 26-AUG-19 1.2-Dichlorobenzene 107.4 % 50-140 26-AUG-19 1.2-Dichloroptopane 109.7 % 50-140 26-AUG-19 1.3-Dichlorobenzene 102.0 % 50-140 26-AUG-19 1.3-Dichlorobenzene 100.9 % 50-140 26-AUG-19 1.4-Dichlorobenzene 100.9 % 50-140 26-AUG-19 1.4-Dichlorobenzene 100.9 % 50-140 26-AUG-19 Acetone 120.5 % 50-140 26-AUG-19 Benzene 100.1 % 50-140 <td< td=""><td></td><td></td><td>L2330748-6</td><td>114.1</td><td></td><td>%</td><td></td><td>50-140</td><td>26-AUG-19</td></td<>			L2330748-6	114.1		%		50-140	26-AUG-19
1.1,1-Trichloroethane 105.9 % 50-140 26-AUG-19 1.1,2-Trichloroethane 113.1 % 50-140 26-AUG-19 1,1-Dichloroethane 106.6 % 50-140 26-AUG-19 1,1-Dichloroethylene 93.4 % 50-140 26-AUG-19 1,2-Dibromoethane 114.2 % 50-140 26-AUG-19 1,2-Dichloroethane 107.4 % 50-140 26-AUG-19 1,2-Dichloroethane 112.4 % 50-140 26-AUG-19 1,2-Dichloropropane 109.7 % 50-140 26-AUG-19 1,2-Dichloropropane 109.7 % 50-140 26-AUG-19 1,3-Dichlorobenzene 100.9 % 50-140 26-AUG-19 1,4-Dichlorobenzene 100.9 % 50-140 26-AUG-19 Acetone 120.5 % 50-140 26-AUG-19 Benzene 109.1 % 50-140 26-AUG-19 Bromodichloromethane 109.8 % 50-140 26-AUG-	1,1,2,2-Tetrachloroethane			120.5		%			
1,1-Dichloroethane 106.6 % 50-140 26-AUG-19 1,1-Dichloroethylene 93.4 % 50-140 26-AUG-19 1,2-Dibromoethane 114.2 % 50-140 26-AUG-19 1,2-Dichlorobenzene 107.4 % 50-140 26-AUG-19 1,2-Dichloropethane 112.4 % 50-140 26-AUG-19 1,2-Dichloropenane 109.7 % 50-140 26-AUG-19 1,3-Dichlorobenzene 100.9 % 50-140 26-AUG-19 1,4-Dichlorobenzene 100.9 % 50-140 26-AUG-19 Acetone 120.5 % 50-140 26-AUG-19 Benzene 109.1 % 50-140 26-AUG-19 Bromodichloromethane 109.8 % 50-140 26-AUG-19 Bromoform 120.0 % 50-140 26-AUG-19 Bromomethane 90.3 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19	1,1,1-Trichloroethane			105.9		%		50-140	26-AUG-19
1,1-Dichloroethylene 93.4 % 50-140 26-AUG-19 1,2-Dibromoethane 114.2 % 50-140 26-AUG-19 1,2-Dichlorobenzene 107.4 % 50-140 26-AUG-19 1,2-Dichlorobenzene 112.4 % 50-140 26-AUG-19 1,2-Dichloropropane 109.7 % 50-140 26-AUG-19 1,3-Dichlorobenzene 100.9 % 50-140 26-AUG-19 1,4-Dichlorobenzene 100.9 % 50-140 26-AUG-19 Acetone 120.5 % 50-140 26-AUG-19 Benzene 109.1 % 50-140 26-AUG-19 Bromoform 109.8 % 50-140 26-AUG-19 Bromomethane 109.8 % 50-140 26-AUG-19 Bromomethane 109.8 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19	1,1,2-Trichloroethane			113.1		%		50-140	26-AUG-19
1,2-Dibromoethane 114.2 % 50-140 26-AUG-19 1,2-Dichlorobenzene 107.4 % 50-140 26-AUG-19 1,2-Dichloroethane 112.4 % 50-140 26-AUG-19 1,2-Dichloropropane 109.7 % 50-140 26-AUG-19 1,3-Dichlorobenzene 100.0 % 50-140 26-AUG-19 1,4-Dichlorobenzene 100.9 % 50-140 26-AUG-19 Acetone 120.5 % 50-140 26-AUG-19 Benzene 109.1 % 50-140 26-AUG-19 Bromoform 120.0 % 50-140 26-AUG-19 Bromomethane 90.3 % 50-140 26-AUG-19 Bromomethane 90.3 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19	1,1-Dichloroethane			106.6		%		50-140	26-AUG-19
1,2-Dichlorobenzene 107.4 % 50.140 26-AUG-19 1,2-Dichloroethane 112.4 % 50.140 26-AUG-19 1,2-Dichloropropane 109.7 % 50.140 26-AUG-19 1,3-Dichlorobenzene 102.0 % 50.140 26-AUG-19 1,4-Dichlorobenzene 100.9 % 50.140 26-AUG-19 Acetone 120.5 % 50.140 26-AUG-19 Benzene 109.1 % 50.140 26-AUG-19 Bromodichloromethane 109.8 % 50.140 26-AUG-19 Bromomethane 109.8 % 50.140 26-AUG-19 Bromomethane 90.3 % 50.140 26-AUG-19 Carbon tetrachloride 105.3 % 50.140 26-AUG-19 Chlorobenzene 109.4 % 50.140 26-AUG-19 Chloroform 109.1 % 50.140 26-AUG-19 Chloroformethane 104.8 % 50.140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50.140 26-AUG-19	1,1-Dichloroethylene			93.4		%		50-140	26-AUG-19
1,2-Dichloroethane 112.4 % 50.140 26-AUG-19 1,2-Dichloropropane 109.7 % 50.140 26-AUG-19 1,3-Dichlorobenzene 102.0 % 50.140 26-AUG-19 1,4-Dichlorobenzene 100.9 % 50.140 26-AUG-19 Acetone 120.5 % 50.140 26-AUG-19 Benzene 109.1 % 50.140 26-AUG-19 Bromodichloromethane 109.8 % 50.140 26-AUG-19 Bromoform 120.0 % 50.140 26-AUG-19 Bromomethane 90.3 % 50.140 26-AUG-19 Carbon tetrachloride 105.3 % 50.140 26-AUG-19 Chlorobenzene 109.4 % 50.140 26-AUG-19 Chloroform 109.1 % 50.140 26-AUG-19 Cis-1,2-Dichloroethylene 104.8 % 50.140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50.140 26-AUG-19 Dibromochloromethane 114.7 % 50.140 26-AUG-19 <	1,2-Dibromoethane			114.2		%		50-140	26-AUG-19
1,2-Dichloropropane 109.7 % \$0.140 26-AUG-19 1,3-Dichlorobenzene 102.0 % \$0.140 26-AUG-19 1,4-Dichlorobenzene 100.9 % \$0.140 26-AUG-19 Acetone 120.5 % \$0.140 26-AUG-19 Benzene 109.1 % \$0.140 26-AUG-19 Bromodichloromethane 109.8 % \$0.140 26-AUG-19 Bromoform 120.0 % \$0.140 26-AUG-19 Bromomethane 90.3 % \$0.140 26-AUG-19 Carbon tetrachloride 105.3 % \$0.140 26-AUG-19 Chlorobenzene 109.4 % \$0.140 26-AUG-19 Chloroform 109.1 % \$0.140 26-AUG-19 Chloroform 109.1 % \$0.140 26-AUG-19 Cis-1,2-Dichloroethylene 104.8 % \$0.140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % \$0.140 26-AUG-19 Dibromochloromethane 114.7 % \$0.140 26-AUG-19	1,2-Dichlorobenzene			107.4		%		50-140	26-AUG-19
1,3-Dichlorobenzene 102.0 % 50-140 26-AUG-19 1,4-Dichlorobenzene 100.9 % 50-140 26-AUG-19 Acetone 120.5 % 50-140 26-AUG-19 Benzene 109.1 % 50-140 26-AUG-19 Bromodichloromethane 109.8 % 50-140 26-AUG-19 Bromoform 120.0 % 50-140 26-AUG-19 Bromomethane 90.3 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 Cis-1,2-Dichloroethylene 109.4 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 cis-1,3-Dichloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 153.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19	1,2-Dichloroethane			112.4		%		50-140	26-AUG-19
1,4-Dichlorobenzene 100.9 % 50-140 26-AUG-19 Acetone 120.5 % 50-140 26-AUG-19 Benzene 109.1 % 50-140 26-AUG-19 Bromodichloromethane 109.8 % 50-140 26-AUG-19 Bromoform 120.0 % 50-140 26-AUG-19 Bromomethane 90.3 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19	1,2-Dichloropropane			109.7		%		50-140	26-AUG-19
Acetone 120.5 % 50-140 26-AUG-19 Benzene 109.1 % 50-140 26-AUG-19 Bromodichloromethane 109.8 % 50-140 26-AUG-19 Bromoform 120.0 % 50-140 26-AUG-19 Bromomethane 90.3 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19	1,3-Dichlorobenzene			102.0		%		50-140	26-AUG-19
Benzene 109.1 % 50-140 26-AUG-19 Bromodichloromethane 109.8 % 50-140 26-AUG-19 Bromoform 120.0 % 50-140 26-AUG-19 Bromomethane 90.3 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19	1,4-Dichlorobenzene			100.9		%		50-140	26-AUG-19
Bromodichloromethane 109.8 % 50-140 26-AUG-19 Bromoform 120.0 % 50-140 26-AUG-19 Bromomethane 90.3 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19	Acetone			120.5		%		50-140	26-AUG-19
Bromoform 120.0 % 50-140 26-AUG-19 Bromomethane 90.3 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 <td< td=""><td>Benzene</td><td></td><td></td><td>109.1</td><td></td><td>%</td><td></td><td>50-140</td><td>26-AUG-19</td></td<>	Benzene			109.1		%		50-140	26-AUG-19
Bromomethane 90.3 % 50-140 26-AUG-19 Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Bromodichloromethane			109.8		%		50-140	26-AUG-19
Carbon tetrachloride 105.3 % 50-140 26-AUG-19 Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Bromoform			120.0		%		50-140	26-AUG-19
Chlorobenzene 109.4 % 50-140 26-AUG-19 Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Bromomethane			90.3		%		50-140	26-AUG-19
Chloroform 109.1 % 50-140 26-AUG-19 cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Carbon tetrachloride			105.3		%		50-140	26-AUG-19
cis-1,2-Dichloroethylene 104.8 % 50-140 26-AUG-19 cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Chlorobenzene			109.4		%		50-140	26-AUG-19
cis-1,3-Dichloropropene 109.4 % 50-140 26-AUG-19 Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Chloroform			109.1		%		50-140	26-AUG-19
Dibromochloromethane 114.7 % 50-140 26-AUG-19 Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	cis-1,2-Dichloroethylene			104.8		%		50-140	26-AUG-19
Dichlorodifluoromethane 53.9 % 50-140 26-AUG-19 Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	cis-1,3-Dichloropropene			109.4		%		50-140	26-AUG-19
Ethylbenzene 101.7 % 50-140 26-AUG-19 n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Dibromochloromethane			114.7		%		50-140	26-AUG-19
n-Hexane 87.5 % 50-140 26-AUG-19 Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Dichlorodifluoromethane			53.9		%		50-140	26-AUG-19
Methylene Chloride 106.8 % 50-140 26-AUG-19 MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Ethylbenzene			101.7		%		50-140	26-AUG-19
MTBE 104.6 % 50-140 26-AUG-19 m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19				87.5				50-140	26-AUG-19
m+p-Xylenes 104.5 % 50-140 26-AUG-19 Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	Methylene Chloride			106.8		%		50-140	26-AUG-19
Methyl Ethyl Ketone 115.9 % 50-140 26-AUG-19	MTBE			104.6		%		50-140	26-AUG-19
	m+p-Xylenes			104.5		%		50-140	26-AUG-19
Methyl Isobutyl Ketone 108.1 % 50-140 26-AUG-19								50-140	26-AUG-19
	Methyl Isobutyl Ketone			108.1		%		50-140	26-AUG-19



Workorder: L2330748 Report Date: 06-SEP-19 Page 16 of 22

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4768161								
WG3141159-5 MS		L2330748-6			0/			
o-Xylene			104.9		%		50-140	26-AUG-19
Styrene			103.6		%		50-140	26-AUG-19
Tetrachloroethylene			103.1		%		50-140	26-AUG-19
Toluene			106.0		%		50-140	26-AUG-19
trans-1,2-Dichloroethyle			93.8		%		50-140	26-AUG-19
trans-1,3-Dichloroprope	ene		108.5		%		50-140	26-AUG-19
Trichloroethylene			103.9		%		50-140	26-AUG-19
Trichlorofluoromethane			97.1		%		50-140	26-AUG-19
Vinyl chloride			92.6		%		50-140	26-AUG-19
Batch R4768235								
WG3139896-4 DUP 1,1,1,2-Tetrachloroetha	no	WG3139896- <0.050	3 <0.050		ua/a	N1/A	40	05 ALIO 40
				RPD-NA	ug/g	N/A	40	25-AUG-19
1,1,2,2-Tetrachloroetha	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,2-Dichloropropane		< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,3-Dichlorobenzene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	25-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	25-AUG-19
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
cis-1,2-Dichloroethylene	Э	<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	25-AUG-19



Workorder: L2330748 Report Date: 06-SEP-19 Page 17 of 22

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test N	Matrix Refere	nce Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil						
Batch R4768235							
WG3139896-4 DUP		39896-3		,			
Dibromochloromethane	<0.050		RPD-NA	ug/g	N/A	40	25-AUG-19
Dichlorodifluoromethane	<0.050		RPD-NA	ug/g	N/A	40	25-AUG-19
Ethylbenzene	<0.018		RPD-NA	ug/g	N/A	40	25-AUG-19
n-Hexane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Methylene Chloride	<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
MTBE	<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
m+p-Xylenes	<0.030	<0.030	RPD-NA	ug/g	N/A	40	25-AUG-19
Methyl Ethyl Ketone	<0.50	<0.50	RPD-NA	ug/g	N/A	40	25-AUG-19
Methyl Isobutyl Ketone	<0.50	<0.50	RPD-NA	ug/g	N/A	40	25-AUG-19
o-Xylene	<0.020	<0.020	RPD-NA	ug/g	N/A	40	25-AUG-19
Styrene	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Tetrachloroethylene	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Toluene	<0.080	<0.080	RPD-NA	ug/g	N/A	40	25-AUG-19
trans-1,2-Dichloroethylene	<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
trans-1,3-Dichloropropene	<0.030	<0.030	RPD-NA	ug/g	N/A	40	25-AUG-19
Trichloroethylene	<0.010	<0.010	RPD-NA	ug/g	N/A	40	25-AUG-19
Trichlorofluoromethane	<0.050	<0.050	RPD-NA	ug/g	N/A	40	25-AUG-19
Vinyl chloride	<0.020	<0.020	RPD-NA	ug/g	N/A	40	25-AUG-19
WG3139896-2 LCS							
1,1,1,2-Tetrachloroethane		105.9		%		60-130	25-AUG-19
1,1,2,2-Tetrachloroethane		107.9		%		60-130	25-AUG-19
1,1,1-Trichloroethane		104.6		%		60-130	25-AUG-19
1,1,2-Trichloroethane		106.0		%		60-130	25-AUG-19
1,1-Dichloroethane		105.3		%		60-130	25-AUG-19
1,1-Dichloroethylene		92.1		%		60-130	25-AUG-19
1,2-Dibromoethane		106.8		%		70-130	25-AUG-19
1,2-Dichlorobenzene		102.5		%		70-130	25-AUG-19
1,2-Dichloroethane		109.1		%		60-130	25-AUG-19
1,2-Dichloropropane		106.8		%		70-130	25-AUG-19
1,3-Dichlorobenzene		100.2		%		70-130	25-AUG-19
1,4-Dichlorobenzene		101.5		%		70-130	25-AUG-19
Acetone		103.2		%		60-140	25-AUG-19
Benzene		107.8		%		70-130	25-AUG-19



Workorder: L2330748 Report Date: 06-SEP-19 Page 18 of 22

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4768235								
WG3139896-2 LCS			100.7		0/			
Bromodichloromethane			108.7		%		50-140	25-AUG-19
Bromoform			108.1		%		70-130	25-AUG-19
Bromomethane			88.1		%		50-140	25-AUG-19
Carbon tetrachloride			106.1		%		70-130	25-AUG-19
Chlorobenzene			101.4		%		70-130	25-AUG-19
Chloroform			107.7		%		70-130	25-AUG-19
cis-1,2-Dichloroethylene			106.4		%		70-130	25-AUG-19
cis-1,3-Dichloropropene			108.1		%		70-130	25-AUG-19
Dibromochloromethane			103.8		%		60-130	25-AUG-19
Dichlorodifluoromethane			58.6		%		50-140	25-AUG-19
Ethylbenzene			95.2		%		70-130	25-AUG-19
n-Hexane			87.8		%		70-130	25-AUG-19
Methylene Chloride			106.4		%		70-130	25-AUG-19
MTBE			103.7		%		70-130	25-AUG-19
m+p-Xylenes			97.4		%		70-130	25-AUG-19
Methyl Ethyl Ketone			101.1		%		60-140	25-AUG-19
Methyl Isobutyl Ketone			94.5		%		60-140	25-AUG-19
o-Xylene			95.6		%		70-130	25-AUG-19
Styrene			96.6		%		70-130	25-AUG-19
Tetrachloroethylene			99.6		%		60-130	25-AUG-19
Toluene			95.3		%		70-130	25-AUG-19
trans-1,2-Dichloroethyler	ne		99.7		%		60-130	25-AUG-19
trans-1,3-Dichloropropen	ne		101.8		%		70-130	25-AUG-19
Trichloroethylene			109.0		%		60-130	25-AUG-19
Trichlorofluoromethane			94.7		%		50-140	25-AUG-19
Vinyl chloride			95.1		%		60-140	25-AUG-19
WG3139896-1 MB								
1,1,1,2-Tetrachloroethan			<0.050		ug/g		0.05	25-AUG-19
1,1,2,2-Tetrachloroethan	е		<0.050		ug/g		0.05	25-AUG-19
1,1,1-Trichloroethane			< 0.050		ug/g		0.05	25-AUG-19
1,1,2-Trichloroethane			< 0.050		ug/g		0.05	25-AUG-19
1,1-Dichloroethane			<0.050		ug/g		0.05	25-AUG-19
1,1-Dichloroethylene			<0.050		ug/g		0.05	25-AUG-19
1,2-Dibromoethane			<0.050		ug/g		0.05	25-AUG-19



Workorder: L2330748 Report Date: 06-SEP-19 Page 19 of 22

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4768235								
WG3139896-1 MB			0.050				0.05	
1,2-Dichlorobenzene			<0.050		ug/g		0.05	25-AUG-19
1,2-Dichloroethane			<0.050		ug/g		0.05	25-AUG-19
1,2-Dichloropropane			<0.050		ug/g		0.05	25-AUG-19
1,3-Dichlorobenzene			<0.050		ug/g		0.05	25-AUG-19
1,4-Dichlorobenzene			<0.050		ug/g		0.05	25-AUG-19
Acetone			<0.50		ug/g		0.5	25-AUG-19
Benzene			<0.0068		ug/g		0.0068	25-AUG-19
Bromodichloromethane			<0.050		ug/g		0.05	25-AUG-19
Bromoform			< 0.050		ug/g		0.05	25-AUG-19
Bromomethane			< 0.050		ug/g		0.05	25-AUG-19
Carbon tetrachloride			< 0.050		ug/g		0.05	25-AUG-19
Chlorobenzene			< 0.050		ug/g		0.05	25-AUG-19
Chloroform			< 0.050		ug/g		0.05	25-AUG-19
cis-1,2-Dichloroethylene)		< 0.050		ug/g		0.05	25-AUG-19
cis-1,3-Dichloropropene	:		< 0.030		ug/g		0.03	25-AUG-19
Dibromochloromethane			< 0.050		ug/g		0.05	25-AUG-19
Dichlorodifluoromethane	Э		< 0.050		ug/g		0.05	25-AUG-19
Ethylbenzene			<0.018		ug/g		0.018	25-AUG-19
n-Hexane			< 0.050		ug/g		0.05	25-AUG-19
Methylene Chloride			< 0.050		ug/g		0.05	25-AUG-19
MTBE			< 0.050		ug/g		0.05	25-AUG-19
m+p-Xylenes			< 0.030		ug/g		0.03	25-AUG-19
Methyl Ethyl Ketone			<0.50		ug/g		0.5	25-AUG-19
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	25-AUG-19
o-Xylene			<0.020		ug/g		0.02	25-AUG-19
Styrene			<0.050		ug/g		0.05	25-AUG-19
Tetrachloroethylene			< 0.050		ug/g		0.05	25-AUG-19
Toluene			<0.080		ug/g		0.08	25-AUG-19
trans-1,2-Dichloroethyle	ne		< 0.050		ug/g		0.05	25-AUG-19
trans-1,3-Dichloroprope			<0.030		ug/g		0.03	25-AUG-19
Trichloroethylene			<0.010		ug/g		0.01	25-AUG-19
Trichlorofluoromethane			<0.050		ug/g		0.05	25-AUG-19
			30.000		~ ' ' ' '		5.50	20-700-19



Workorder: L2330748 Report Date: 06-SEP-19 Page 20 of 22

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

est Ma	trix Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT So	il						
Batch R4768235							
WG3139896-1 MB Surrogate: 1,4-Difluorobenzel	20	117.5		%		50-140	05 4110 40
Surrogate: 4-Bromofluoroben		99.5		%		50-140	25-AUG-19
-				70		50-140	25-AUG-19
WG3139896-5 MS 1,1,1,2-Tetrachloroethane	L2330748-1	112.9		%		50-140	27-AUG-19
1,1,2,2-Tetrachloroethane		112.6		%		50-140	27-AUG-19
1,1,1-Trichloroethane		111.4		%		50-140	27-AUG-19
1,1,2-Trichloroethane		105.1		%		50-140	27-AUG-19
1,1-Dichloroethane		108.8		%		50-140	27-AUG-19
1,1-Dichloroethylene		100.5		%		50-140	27-AUG-19
1,2-Dibromoethane		104.7		%		50-140	27-AUG-19
1,2-Dichlorobenzene		108.7		%		50-140	27-AUG-19
1,2-Dichloroethane		107.5		%		50-140	27-AUG-19
1,2-Dichloropropane		109.5		%		50-140	27-AUG-19
1,3-Dichlorobenzene		110.5		%		50-140	27-AUG-19
1,4-Dichlorobenzene		110.7		%		50-140	27-AUG-19
Acetone		99.2		%		50-140	27-AUG-19
Benzene		113.1		%		50-140	27-AUG-19
Bromodichloromethane		109.6		%		50-140	27-AUG-19
Bromoform		111.1		%		50-140	27-AUG-19
Bromomethane		97.3		%		50-140	27-AUG-19
Carbon tetrachloride		112.1		%		50-140	27-AUG-19
Chlorobenzene		113.4		%		50-140	27-AUG-19
Chloroform		111.5		%		50-140	27-AUG-19
cis-1,2-Dichloroethylene		109.1		%		50-140	27-AUG-19
cis-1,3-Dichloropropene		120.2		%		50-140	27-AUG-19
Dibromochloromethane		108.3		%		50-140	27-AUG-19
Dichlorodifluoromethane		62.4		%		50-140	27-AUG-19
Ethylbenzene		107.5		%		50-140	27-AUG-19
n-Hexane		93.5		%		50-140	27-AUG-19
Methylene Chloride		107.3		%		50-140	27-AUG-19
MTBE		102.4		%		50-140	27-AUG-19
m+p-Xylenes		112.8		%		50-140	27-AUG-19
Methyl Ethyl Ketone		98.6		%		50-140	27-AUG-19
Methyl Isobutyl Ketone		95.1		%		50-140	27-AUG-19



Workorder: L2330748 Report Date: 06-SEP-19 Page 21 of 22

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4768235	;							
WG3139896-5 MS		L2330748-12						
o-Xylene			108.8		%		50-140	27-AUG-19
Styrene			107.0		%		50-140	27-AUG-19
Tetrachloroethylene			114.8		%		50-140	27-AUG-19
Toluene			109.6		%		50-140	27-AUG-19
trans-1,2-Dichloroethyle	ene		106.6		%		50-140	27-AUG-19
trans-1,3-Dichloroprope	ene		115.9		%		50-140	27-AUG-19
Trichloroethylene			115.1		%		50-140	27-AUG-19
Trichlorofluoromethane	•		104.3		%		50-140	27-AUG-19
Vinyl chloride			101.3		%		50-140	27-AUG-19

Report Date: 06-SEP-19 Workorder: L2330748

CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Andrew Vermeersch

Legend:

Contact:

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

Average Desorption Efficiency ADE

Method Blank MB

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.
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 predetermined data quality objectives to provide confidence in the accuracy of associated test results.

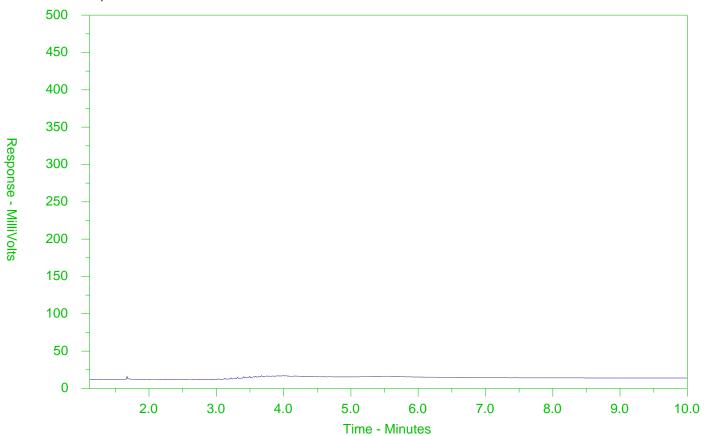
Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Page 22 of 22

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2330748-1 Client Sample ID: MW103-12.5-14



← -F2-	→ ←	-F3 → F4	→							
nC10	nC16	nC34	nC50							
174°C	287°C	481°C	575°C							
346°F	549°F	898°F	1067°F							
Gasolin	e →	← N	Notor Oils/Lube Oils/Grease	-						
←	-Diesel/Jet	◆ 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.

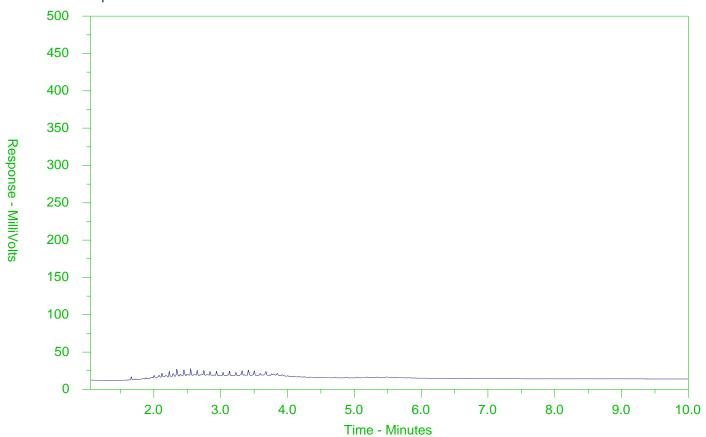
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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.



ALS Sample ID: L2330748-3 Client Sample ID: MW103-17.5-19.5



← -F2-	→←	_F3 → F4-	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ie →	← Mo	tor Oils/Lube Oils/Grease	-
•	-Diesel/Jet	Fuels→		

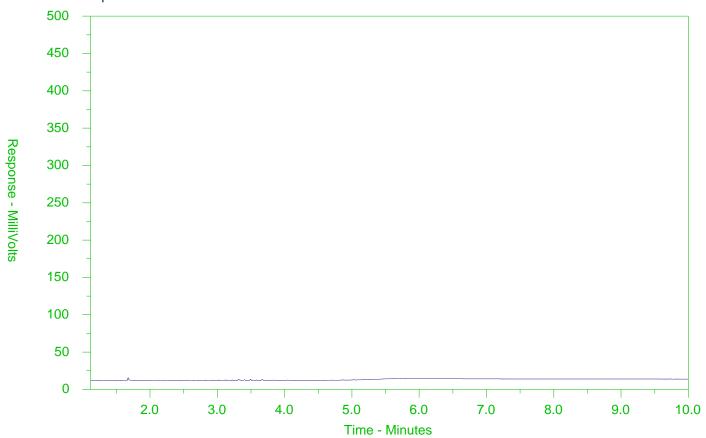
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2330748-6 Client Sample ID: MW109-8-9.5



← -F2-	→←	_F3 → F4-	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ie →	← Mo	tor Oils/Lube Oils/Grease	-
•	-Diesel/Jet	Fuels→		

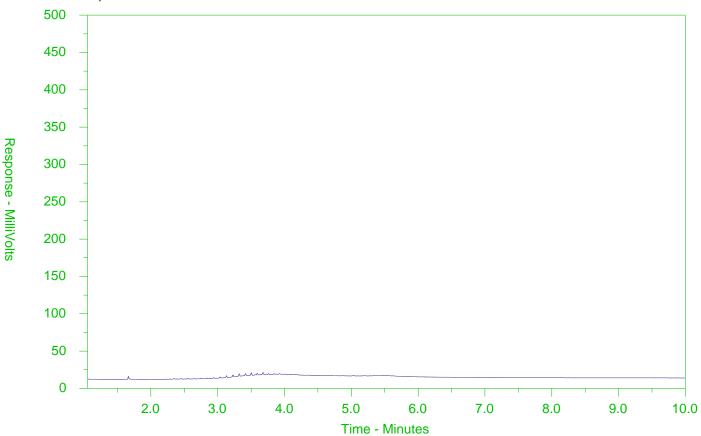
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2330748-8
Client Sample ID: MW109-12.5-14.5



← -F2-	→←	_F3 F4_	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ie →	← Mo	otor Oils/Lube Oils/Grease——	-
←	-Diesel/Jet	Fuels→		

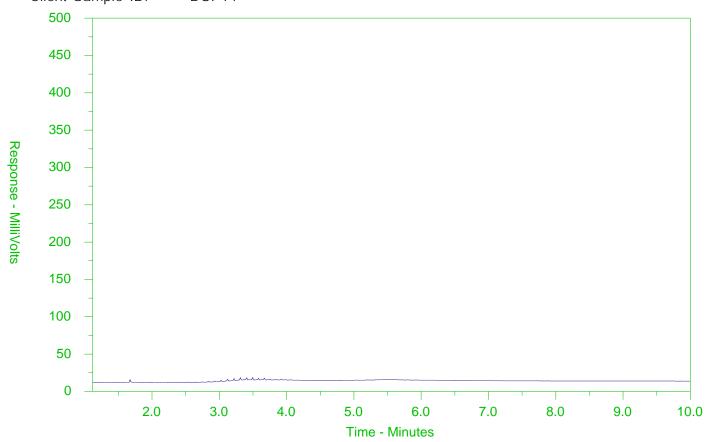
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2330748-12 Client Sample ID: DUP14



← -F2-	→←	_F3 → F4-	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ie →	← Mo	tor Oils/Lube Oils/Grease	-
•	-Diesel/Jet	Fuels→		

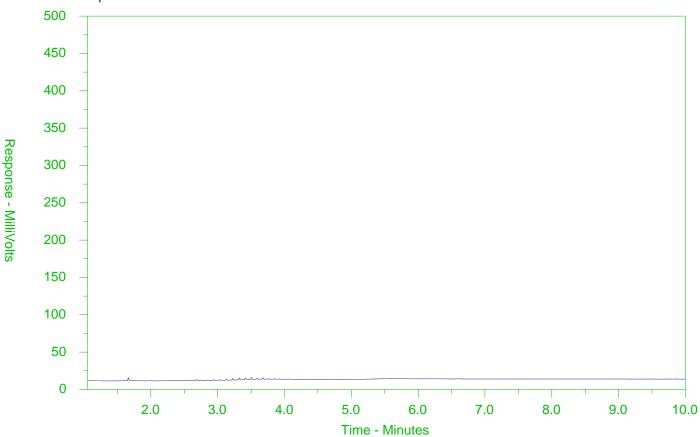
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2330748-13
Client Sample ID: MW108-12.5-14.5



← -F2-	→-	-F3 → F4	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ıe →	← N	Notor Oils/Lube Oils/Grease	
←	-Diesel/Jet	Fuels→		

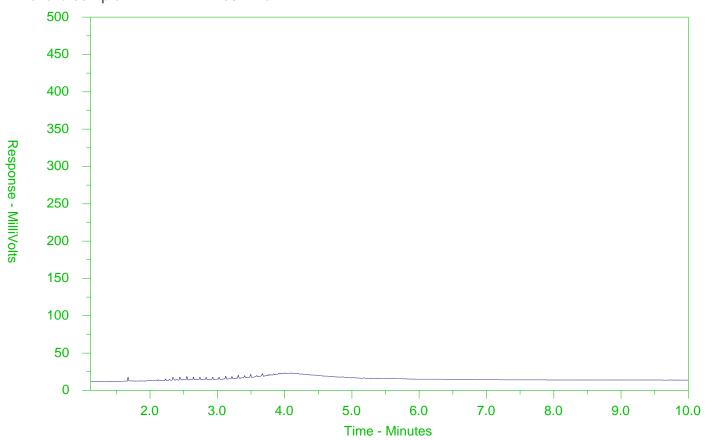
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2330748-15 Client Sample ID: MW108-17.5-19



← -F2-	→ ←	—F3 → ← F4—	→	
nC10	nC16	nC34	nC50	
174°C	287°C	481°C	575°C	
346°F	549°F	898°F	1067°F	
Gasolin	ie →	← Mot	or Oils/Lube Oils/Grease-	
←	- Diesel/Je	t 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.



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2330748-COFC

COC Number: 17 -

Page | of Z

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Chain of Custody (COC) / Analytical Request Form

COC Number: 17 -

Environmental L2330748-COFC Canada Toll Free: 1 800 668 9878 www.atsglobal.com - Contact your AM to confirm all ESP TATs (surcharges may apply) Contact and company name below will appear on the final report Report Format Report To Select Report Format: Select Report Format: Select Report Format: Regular [R] Standard TAT if received by 3 pm - business days - no surcharges apply CH2M Hill(Jacobs Company Business day [E1 - 100%] Quality Control (QC) Report with Report MYES NO. 4 day [P4-20%] Andrew Vernteersch Contact 3 day [P3-25%] Compare Results to Onterio on Report - provide details below if box checked Same Day, Weekend or Statutory holiday [E2 -200% 519 579 3500 x 73247 Phone (Laboratory opening fees may apply) Select Distribution: 💆 EMAII 🗌 MAIL 🔲 FAX 2 day (P2-50%) Company address below will appear on the final report Date and Time Required for all ESP TATE: Email 1 or Fax Andrew.Vermeersch@jacobs.com 72 Victoria Street South, Suite 300 Street or least that can not be portormed according to the service level actioned, you will be confident. Email 2 proubact showy & jacobs. was Kitchener/Ontario City/Province Analysis Request Email & Kaltura stricky & jacobs and N2G 4Y9 Postal Code: Indicate Filtered (F), Preservant (P) or Filtered and Preservant (F/P) below detai ☐ YES ☐ NO Invoice To Same as Report To ₽ ☐ Yrs ☐ NO Copy of Invoice with Report Email 1 or Fax Accounts Payable CH2M Hid Kitchener Сотралу Email 2 Accounts Pavable Contact Oil and Gas Required Fields (client use) Project Information PO# AFENCAM Center ALS Account # / Quote #: 072980 Routing Code: Major/Minor Code: Job#: CE751900.A CS.EV A2 Requisitioner PO / AFE SAMPLES ON HOLD Location: LSD: ALS Lab Work Order# (lab use only): L2730748 Sampler Andrew V. ALS Contact: Mathy Date Time Sample Identification and/or Coordinates Š ខ្ល ALS Sample # Sample Type (th mm) (dd-mmm yy) (lab use only) (This description will appear on the report) 9: o i MW108 -12.5-14.5 50:1 16-844-19 11 MW108 - 12,5-14,5 ٧/ × 9:31 ** MW108-17.5-19 11 MW 108 - 17.5-19 11 34 MW108 - 20-21 97.58 Ų. x TRIP SUANIC - ZU, 409 BID the House SAMPLE CONDITION AS RECEIVED ((ab use only) Special Instructions / Specify Criteria to add on report by clicking on the drop-down flat below Drinking Water (DW) Samples (client use) SIF Observations felectronic COC only) П please compare to table I Standards renifering toe Packs 🔲 loe Cubes 🗹 Custody seal intact No Are samples taken from a Regulated DW System? Cooling Initiated 54. YES NO FINAL COOLER TEMPERATURES *C INITIAL COOLER TEMPERATURES *C Are samples for human consumption/ use? Some Samples on How ⊞ vrs MŽiwo FINAL SHIPMENT RECEPTION (lab use only) INITIAL SHIPMENT RECEPTION (lab use only) SHIPMENT RELEASE (client use) Date Time: Received by. Released by: Time: Received by:

YELLOW - CHENT COPY WHITE - LABORATORY COPY Failure to complete all portions of this form may detay analysis. Please fill in this form LEGIBLY, By the use of this form the uses acknowledges and agrees with the Terms and Conditions as specified on the back page of the write - report copy

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



CH2M HILL CANADA LIMITED ATTN: Andrew Vermeersch CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 21-AUG-19

Report Date: 11-NOV-19 07:56 (MT)

Version: FINAL REV. 3

Client Phone: 519-579-3500

Certificate of Analysis

Lab Work Order #: L2333129

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV.A2

C of C Numbers: Legal Site Desc:

Comments: ADDITIONAL 04-SEP-19 11:00

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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Version: FINAL RE\

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-1 BH206-7.5-9.5 Sampled By: ANDREW V on 19-AUG-19 @ 08:30 Matrix: SOIL							
Physical Tests							
Conductivity	0.554		0.0040	mS/cm		29-AUG-19	R4776668
% Moisture	8.42		0.10	%	21-AUG-19	22-AUG-19	R4762874
pН	7.94		0.10	pH units		23-AUG-19	R4766910
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-AUG-19	23-AUG-19	R4768449
Saturated Paste Extractables							
SAR	2.75		0.10	SAR		29-AUG-19	R4775892
Calcium (Ca)	23.1		0.50	mg/L		29-AUG-19	R4775892
Magnesium (Mg)	9.09		0.50	mg/L		29-AUG-19	R4775892
Sodium (Na)	61.7		0.50	mg/L		29-AUG-19	R4775892
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Arsenic (As)	2.7		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Barium (Ba)	47.8		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Beryllium (Be)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Boron (B)	8.2		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Boron (B), Hot Water Ext.	0.21		0.10	ug/g	29-AUG-19	29-AUG-19	R4776610
Cadmium (Cd)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Chromium (Cr)	17.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Cobalt (Co)	7.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Copper (Cu)	14.3		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Lead (Pb)	13.3		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Mercury (Hg)	0.0159		0.0050	ug/g	29-AUG-19	29-AUG-19	R4777068
Molybdenum (Mo)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Nickel (Ni)	15.4		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Selenium (Se)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Silver (Ag)	<0.20		0.20	ug/g	29-AUG-19	29-AUG-19	R4777686
Thallium (TI)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Uranium (U)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	
Vanadium (V)	27.4		1.0	ug/g	29-AUG-19	29-AUG-19	
Zinc (Zn)	72.3		5.0	ug/g	29-AUG-19	29-AUG-19	
Speciated Metals			0.0	-9.9			
Chromium, Hexavalent	<0.20		0.20	ug/g	22-AUG-19	27-AUG-19	R4769342
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19		R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-1 BH206-7.5-9.5							
Sampled By: ANDREW V on 19-AUG-19 @ 08:30							
Matrix: SOIL							
Volatile Organic Compounds	0.050		0.050		00 4110 40	00 4110 40	D 477 4000
Chloroform	<0.050		0.050	ug/g	26-AUG-19		R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19 26-AUG-19		R4774229
1,4-Dichlorobenzene Dichlorodifluoromethane	<0.050 <0.050		0.050	ug/g			R4774229
1.1-Dichloroethane			0.050	ug/g	26-AUG-19 26-AUG-19		R4774229 R4774229
1,2-Dichloroethane	<0.050 <0.050		0.050 0.050	ug/g ug/g	26-AUG-19	28-AUG-19	
1,1-Dichloroethylene					26-AUG-19	28-AUG-19	
cis-1,2-Dichloroethylene	<0.050 <0.050		0.050 0.050	ug/g	26-AUG-19		R4774229 R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g ug/g	26-AUG-19		R4774229 R4774229
Methylene Chloride	<0.050		0.050	ug/g ug/g	26-AUG-19		R4774229 R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g ug/g	26-AUG-19		R4774229
cis-1,3-Dichloropropene	<0.030		0.030	ug/g ug/g	26-AUG-19	28-AUG-19	
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	
1,3-Dichloropropene (cis & trans)	<0.042		0.030	ug/g ug/g	20 700-13	28-AUG-19	114774223
Ethylbenzene	<0.018		0.042	ug/g	26-AUG-19	28-AUG-19	R4774229
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Methyl Ethyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	26-AUG-19		R4774229
MTBE	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Styrene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19		R4774229
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Toluene	<0.080		0.080	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichloroethylene	<0.010		0.010	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichlorofluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
o-Xylene	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
m+p-Xylenes	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
Xylenes (Total)	<0.050		0.050	ug/g		28-AUG-19	
Surrogate: 4-Bromofluorobenzene	87.6		50-140	%	26-AUG-19	28-AUG-19	R4774229
Surrogate: 1,4-Difluorobenzene	104.5		50-140	%	26-AUG-19	28-AUG-19	R4774229
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	26-AUG-19	28-AUG-19	R4774229
F1-BTEX	<5.0		5.0	ug/g		28-AUG-19	
F2 (C10-C16)	<10		10	ug/g	22-AUG-19	26-AUG-19	R4769692
F2-Naphth	<10		10	ug/g		28-AUG-19	
* Poter to Peteropood Information for Qualifiers (if any) and							

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-1 BH206-7.5-9.5 Sampled By: ANDREW V on 19-AUG-19 @ 08:30 Matrix: SOIL							
Hydrocarbons							
F3 (C16-C34)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
F3-PAH	<50		50	ug/g		28-AUG-19	
F4 (C34-C50)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
Total Hydrocarbons (C6-C50)	<72		72	ug/g		28-AUG-19	
Chrom. to baseline at nC50	YES				22-AUG-19	26-AUG-19	R4769692
Surrogate: 2-Bromobenzotrifluoride	88.2		60-140	%	22-AUG-19	26-AUG-19	R4769692
Surrogate: 3,4-Dichlorotoluene	71.3		60-140	%	26-AUG-19	28-AUG-19	R4774229
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Acenaphthylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)pyrene	< 0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(b)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(k)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Chrysene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Fluorene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		28-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
2-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
Naphthalene	<0.013		0.013	ug/g	22-AUG-19	28-AUG-19	R4772851
Phenanthrene	<0.046		0.046	ug/g	22-AUG-19	28-AUG-19	R4772851
Pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Surrogate: 2-Fluorobiphenyl	103.5		50-140	%	22-AUG-19	28-AUG-19	
Surrogate: p-Terphenyl d14	94.9		50-140	%	22-AUG-19	28-AUG-19	R4772851
L2333129-3 BH206-12.5-14.5 Sampled By: ANDREW V on 19-AUG-19 @ 08:50 Matrix: SOIL							
Physical Tests							
Conductivity	0.628		0.0040	mS/cm		29-AUG-19	R4776634
% Moisture	9.72		0.10	%	22-AUG-19	22-AUG-19	R4764565
рН	7.89		0.10	pH units		23-AUG-19	R4766910
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-AUG-19	23-AUG-19	R4768449
Saturated Paste Extractables							
SAR	1.55		0.10	SAR		29-AUG-19	R4776328
Calcium (Ca)	51.1		0.50	mg/L		29-AUG-19	R4776328
Magnesium (Mg)	11.2		0.50	mg/L		29-AUG-19	R4776328

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-3 BH206-12.5-14.5 Sampled By: ANDREW V on 19-AUG-19 @ 08:50 Matrix: SOIL							
Saturated Paste Extractables							
Sodium (Na)	47.0		0.50	mg/L		29-AUG-19	R4776328
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Arsenic (As)	2.6		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Barium (Ba)	45.9		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Beryllium (Be)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Boron (B)	9.1		5.0	ug/g	29-AUG-19	29-AUG-19	
Boron (B), Hot Water Ext.	0.11		0.10	ug/g	29-AUG-19	29-AUG-19	
Cadmium (Cd)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	
Chromium (Cr)	16.6		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Cobalt (Co)	6.5		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Copper (Cu)	13.4		1.0	ug/g	29-AUG-19	29-AUG-19	
Lead (Pb)	12.7		1.0	ug/g	29-AUG-19	29-AUG-19	
Mercury (Hg)	0.0098		0.0050	ug/g	29-AUG-19	29-AUG-19	
Molybdenum (Mo)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	
Nickel (Ni)	13.7		1.0	ug/g	29-AUG-19	29-AUG-19	
Selenium (Se)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Silver (Ag)	<0.20		0.20	ug/g	29-AUG-19	29-AUG-19	
Thallium (TI)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	
Uranium (U)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	
Vanadium (V)	26.3		1.0	ug/g	29-AUG-19	29-AUG-19	
Zinc (Zn) Speciated Metals	73.4		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Chromium, Hexavalent	<0.20		0.20	ug/g	22-AUG-19	27-AUG-19	R4769342
Volatile Organic Compounds	<0.20		0.20	ug/g	22-400-19	21-400-19	K4709342
Acetone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chloroform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,4-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dichlorodifluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-3 BH206-12.5-14.5 Sampled By: ANDREW V on 19-AUG-19 @ 08:50 Matrix: SOIL							
Volatile Organic Compounds							
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methylene Chloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		28-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	26-AUG-19	28-AUG-19	R4774229
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Ethyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
MTBE	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Styrene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Toluene	<0.080		0.080	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichloroethylene	<0.010		0.010	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichlorofluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
o-Xylene	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
m+p-Xylenes	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
Xylenes (Total)	<0.050		0.050	ug/g		28-AUG-19	
Surrogate: 4-Bromofluorobenzene	94.4		50-140	%	26-AUG-19	28-AUG-19	R4774229
Surrogate: 1,4-Difluorobenzene	110.6		50-140	%	26-AUG-19	28-AUG-19	R4774229
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	26-AUG-19	28-AUG-19	R4774229
F1-BTEX	<5.0		5.0	ug/g		28-AUG-19	
F2 (C10-C16)	<10		10	ug/g	22-AUG-19	26-AUG-19	R4769692
F2-Naphth	<10		10	ug/g		28-AUG-19	
F3 (C16-C34)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
F3-PAH	<50		50	ug/g		28-AUG-19	
F4 (C34-C50)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
Total Hydrocarbons (C6-C50)	<72		72	ug/g		28-AUG-19	
Chrom. to baseline at nC50	YES				22-AUG-19	26-AUG-19	
Surrogate: 2-Bromobenzotrifluoride	87.5		60-140	%	22-AUG-19	26-AUG-19	
Surrogate: 3,4-Dichlorotoluene	67.7		60-140	%	26-AUG-19	28-AUG-19	R4774229
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-3 BH206-12.5-14.5 Sampled By: ANDREW V on 19-AUG-19 @ 08:50 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
Acenaphthylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(b)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(k)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Chrysene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	22-AUG-19		R4772851
Fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Fluorene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	22-AUG-19		R4772851
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		28-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
2-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19		R4772851
Naphthalene	<0.013		0.013	ug/g	22-AUG-19	28-AUG-19	R4772851
Phenanthrene	<0.046		0.046	ug/g	22-AUG-19	28-AUG-19	R4772851
Pyrene	<0.050		0.050	ug/g	22-AUG-19		R4772851
Surrogate: 2-Fluorobiphenyl	102.6		50-140	%	22-AUG-19	28-AUG-19	R4772851
Surrogate: p-Terphenyl d14	92.2		50-140	%	22-AUG-19	28-AUG-19	R4772851
L2333129-6 MW107-2.5-4.5 Sampled By: ANDREW V on 19-AUG-19 @ 11:27 Matrix: SOIL							
Physical Tests							
Conductivity	0.376		0.0040	mS/cm		29-AUG-19	R4776634
% Moisture	6.31		0.10	%	21-AUG-19	22-AUG-19	R4762874
рН	8.24		0.10	pH units		23-AUG-19	R4766910
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-AUG-19	23-AUG-19	R4768449
Saturated Paste Extractables							
SAR	11.4		0.10	SAR		29-AUG-19	R4776328
Calcium (Ca)	1.63		0.50	mg/L		29-AUG-19	R4776328
Magnesium (Mg)	0.98		0.50	mg/L		29-AUG-19	R4776328
Sodium (Na)	74.4		0.50	mg/L		29-AUG-19	R4776328
Metals				,			
Antimony (Sb)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	
Arsenic (As)	3.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Barium (Ba)	15.2		1.0	ug/g	29-AUG-19	29-AUG-19	
Beryllium (Be)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	
Boron (B)	6.4		5.0	ug/g	29-AUG-19	29-AUG-19	
Boron (B), Hot Water Ext.	<0.10		0.10	ug/g	29-AUG-19	29-AUG-19	
Cadmium (Cd)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2333129-6 MW107-2.5-4.5 Sampled By: ANDREW V on 19-AUG-19 @ 11:27 Matrix: SOIL							
Metals							
Chromium (Cr)	12.9		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Cobalt (Co)	2.9		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Copper (Cu)	14.9		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Lead (Pb)	16.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Mercury (Hg)	0.0148		0.0050	ug/g	29-AUG-19	29-AUG-19	R4777068
Molybdenum (Mo)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Nickel (Ni)	6.6		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Selenium (Se)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Silver (Ag)	<0.20		0.20	ug/g	29-AUG-19	29-AUG-19	R4777686
Thallium (TI)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Uranium (U)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Vanadium (V)	19.2		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Zinc (Zn)	66.0		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Speciated Metals							
Chromium, Hexavalent Volatile Organic Compounds	0.54		0.20	ug/g	22-AUG-19	27-AUG-19	R4769342
Acetone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chloroform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,4-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dichlorodifluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methylene Chloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		28-AUG-19	
	l	1		3.3			1

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-6 MW107-2.5-4.5							
Sampled By: ANDREW V on 19-AUG-19 @ 11:27							
Matrix: SOIL							
Volatile Organic Compounds	0.050		0.050	/	00 4110 40	20 4110 40	D 477 4000
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Methyl Ichyl Ketone	<0.50 <0.50		0.50	ug/g	26-AUG-19 26-AUG-19	28-AUG-19 28-AUG-19	R4774229
Methyl Isobutyl Ketone MTBE			0.50	ug/g		28-AUG-19	
	<0.050		0.050	ug/g	26-AUG-19 26-AUG-19	28-AUG-19	R4774229 R4774229
Styrene 1,1,1,2-Tetrachloroethane	<0.050 <0.050		0.050 0.050	ug/g	26-AUG-19	28-AUG-19	R4774229 R4774229
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229 R4774229
Toluene	<0.080		0.030	ug/g	26-AUG-19	28-AUG-19	
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,1,2-Trichloroethane	<0.050		0.050	ug/g ug/g	26-AUG-19	28-AUG-19	R4774229 R4774229
Trichloroethylene	<0.030		0.030	ug/g ug/g	26-AUG-19	28-AUG-19	R4774229 R4774229
Trichlorofluoromethane	<0.050		0.050	ug/g ug/g	26-AUG-19		R4774229
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
o-Xylene	<0.020		0.020	ug/g	26-AUG-19		
m+p-Xylenes	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	
Xylenes (Total)	<0.050		0.050	ug/g	207.00 10	28-AUG-19	11111220
Surrogate: 4-Bromofluorobenzene	90.0		50-140	% %	26-AUG-19	28-AUG-19	R4774229
Surrogate: 1,4-Difluorobenzene	109.8		50-140	%	26-AUG-19		
Hydrocarbons			000	,,,			
F1 (C6-C10)	<5.0		5.0	ug/g	26-AUG-19	28-AUG-19	R4774229
F1-BTEX	<5.0		5.0	ug/g		28-AUG-19	
F2 (C10-C16)	<20	DLM	20	ug/g	22-AUG-19	26-AUG-19	R4769692
F2-Naphth	<20		20	ug/g		28-AUG-19	
F3 (C16-C34)	300	DLM	100	ug/g	22-AUG-19	26-AUG-19	R4769692
F3-PAH	300		100	ug/g		28-AUG-19	
F4 (C34-C50)	800	DLM	100	ug/g	22-AUG-19	26-AUG-19	R4769692
F4G-SG (GHH-Silica)	2110		250	ug/g	24-AUG-19	24-AUG-19	R4773168
Total Hydrocarbons (C6-C50)	1090		140	ug/g		28-AUG-19	
Chrom. to baseline at nC50	NO				22-AUG-19	26-AUG-19	R4769692
Surrogate: 2-Bromobenzotrifluoride	97.3		60-140	%	22-AUG-19	26-AUG-19	R4769692
Surrogate: 3,4-Dichlorotoluene	53.3	SURR-ND	60-140	%	26-AUG-19	28-AUG-19	R4774229
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Acenaphthylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Benzo(b)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Benzo(g,h,i)perylene	0.067		0.050	ug/g	22-AUG-19		R4772851
Benzo(k)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
* Peter to Peteronand Information for Qualifiers (if any) and							

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-6 MW107-2.5-4.5 Sampled By: ANDREW V on 19-AUG-19 @ 11:27 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
Chrysene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	22-AUG-19		R4772851
Fluoranthene	<0.050		0.050	ug/g	22-AUG-19		R4772851
Fluorene	<0.050		0.050	ug/g	22-AUG-19		R4772851
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		28-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
2-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19		R4772851
Naphthalene	<0.013		0.013	ug/g	22-AUG-19		R4772851
Phenanthrene	<0.046		0.046	ug/g	22-AUG-19	28-AUG-19	R4772851
Pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Surrogate: 2-Fluorobiphenyl	101.4		50-140	% %	22-AUG-19		R4772851
Surrogate: p-Terphenyl d14	97.8		50-140	%	22-AUG-19	28-AUG-19	R4772851
L2333129-8 MW107-7.5-9.5 Sampled By: ANDREW V on 19-AUG-19 @ 11:46 Matrix: SOIL							
Physical Tests							
Conductivity	1.71		0.0040	mS/cm		29-AUG-19	R4776634
% Moisture	6.96		0.10	%	21-AUG-19	22-AUG-19	R4762874
рН	8.33		0.10	pH units		23-AUG-19	R4766910
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	22-AUG-19	23-AUG-19	R4768449
Saturated Paste Extractables							
SAR	25.2		0.10	SAR		29-AUG-19	R4776328
Calcium (Ca)	8.04		0.50	mg/L		29-AUG-19	R4776328
Magnesium (Mg)	1.71		0.50	mg/L		29-AUG-19	R4776328
Sodium (Na)	302		0.50	mg/L		29-AUG-19	R4776328
Metals							
Antimony (Sb)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Arsenic (As)	1.4		1.0	ug/g	29-AUG-19	1	R4777686
Barium (Ba)	11.3		1.0	ug/g	29-AUG-19	29-AUG-19	
Beryllium (Be)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Boron (B)	<5.0		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Boron (B), Hot Water Ext.	<0.10		0.10	ug/g	29-AUG-19	29-AUG-19	
Cadmium (Cd)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Chromium (Cr)	6.2		1.0	ug/g	29-AUG-19		R4777686
Cobalt (Co)	1.8		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Copper (Cu)	8.7		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Lead (Pb)	9.5		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Mercury (Hg)	<0.0050		0.0050	ug/g	29-AUG-19	29-AUG-19	R4777068
Molybdenum (Mo)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Nickel (Ni)	3.8		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-8 MW107-7.5-9.5 Sampled By: ANDREW V on 19-AUG-19 @ 11:46 Matrix: SOIL							
Metals							
Selenium (Se)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Silver (Ag)	<0.20		0.20	ug/g	29-AUG-19	29-AUG-19	R4777686
Thallium (TI)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Uranium (U)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Vanadium (V)	11.8		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Zinc (Zn)	88.3		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	22-AUG-19	27-AUG-19	R4769342
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	26-AUG-19		R4774229
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chloroform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,4-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dichlorodifluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methylene Chloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		28-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	26-AUG-19	28-AUG-19	R4774229
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Ethyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
MTBE	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Styrene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
.2333129-8 MW107-7.5-9.5 Sampled By: ANDREW V on 19-AUG-19 @ 11:46 Matrix: SOIL							
Volatile Organic Compounds							
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Toluene	<0.080		0.080	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichloroethylene	<0.010		0.010	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichlorofluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
o-Xylene	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
m+p-Xylenes	< 0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
Xylenes (Total)	<0.050		0.050	ug/g		28-AUG-19	
Surrogate: 4-Bromofluorobenzene	90.8		50-140	%	26-AUG-19	28-AUG-19	R4774229
Surrogate: 1,4-Difluorobenzene	108.9		50-140	%	26-AUG-19	28-AUG-19	R4774229
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	26-AUG-19	28-AUG-19	R4774229
F1-BTEX	<5.0		5.0	ug/g		28-AUG-19	
F2 (C10-C16)	<10		10	ug/g	22-AUG-19	26-AUG-19	R4769692
F2-Naphth	<10		10	ug/g		28-AUG-19	
F3 (C16-C34)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
F3-PAH	<50		50	ug/g		28-AUG-19	
F4 (C34-C50)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
Total Hydrocarbons (C6-C50)	<72		72	ug/g		28-AUG-19	
Chrom. to baseline at nC50	YES				22-AUG-19	26-AUG-19	R4769692
Surrogate: 2-Bromobenzotrifluoride	93.3		60-140	%	22-AUG-19	26-AUG-19	R4769692
Surrogate: 3,4-Dichlorotoluene	59.1	SURR-ND	60-140	%	26-AUG-19	28-AUG-19	R4774229
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	< 0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Acenaphthylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(b)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(k)fluoranthene	< 0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Chrysene	< 0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Fluoranthene	<0.050		0.050	ug/g	22-AUG-19		R4772851
Fluorene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		28-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
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^{*} Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-8 MW107-7.5-9.5 Sampled By: ANDREW V on 19-AUG-19 @ 11:46 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
Naphthalene	<0.013		0.013	ug/g	22-AUG-19	28-AUG-19	R4772851
Phenanthrene	<0.046		0.046	ug/g	22-AUG-19	28-AUG-19	R4772851
Pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Surrogate: 2-Fluorobiphenyl	102.5		50-140	%	22-AUG-19	28-AUG-19	R4772851
Surrogate: p-Terphenyl d14	90.3		50-140	%	22-AUG-19	28-AUG-19	R4772851
L2333129-10 MW107-15-16.5 Sampled By: ANDREW V on 19-AUG-19 @ 12:10 Matrix: SOIL							
Physical Tests							
Conductivity	1.35		0.0040	mS/cm		06-SEP-19	R4784808
Saturated Paste Extractables							
SAR	19.1		0.10	SAR		06-SEP-19	R4784493
Calcium (Ca)	8.06		0.50	mg/L		06-SEP-19	R4784493
Magnesium (Mg)	2.64		0.50	mg/L		06-SEP-19	R4784493
Sodium (Na)	245		0.50	mg/L		06-SEP-19	R4784493
L2333129-11 DUP15 Sampled By: ANDREW V on 19-AUG-19 @ 12:10 Matrix: SOIL							
Physical Tests							
Conductivity	0.643		0.0040	mS/cm		29-AUG-19	R4776634
% Moisture	9.36		0.10	%	21-AUG-19	22-AUG-19	R4762874
pH Cyanides	7.91		0.10	pH units		23-AUG-19	R4766910
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	23-AUG-19	27-AUG-19	R4769677
Saturated Paste Extractables							
SAR	1.64		0.10	SAR		29-AUG-19	R4776328
Calcium (Ca)	51.2		0.50	mg/L		29-AUG-19	R4776328
Magnesium (Mg)	10.9		0.50	mg/L		29-AUG-19	
Sodium (Na)	49.6		0.50	mg/L		29-AUG-19	R4776328
Metals					<u>-</u>		
Antimony (Sb)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Arsenic (As)	2.5		1.0	ug/g	29-AUG-19	29-AUG-19	
Barium (Ba)	43.4		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Beryllium (Be)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	
Boron (B)	6.9		5.0	ug/g	29-AUG-19	29-AUG-19	
Boron (B), Hot Water Ext.	0.11		0.10	ug/g	29-AUG-19	29-AUG-19	R4777576
Cadmium (Cd)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Chromium (Cr)	15.1		1.0	ug/g	29-AUG-19	29-AUG-19	
Cobalt (Co)	6.2		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Copper (Cu)	13.4		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Lead (Pb)	11.9		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Mercury (Hg)	0.0101		0.0050	ug/g	29-AUG-19	29-AUG-19	R4777068
Molybdenum (Mo)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-11 DUP15 Sampled By: ANDREW V on 19-AUG-19 @ 12:10 Matrix: SOIL							
Metals							
Nickel (Ni)	13.1		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Selenium (Se)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Silver (Ag)	<0.20		0.20	ug/g	29-AUG-19	29-AUG-19	R4777686
Thallium (TI)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Uranium (U)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Vanadium (V)	24.9		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Zinc (Zn)	71.7		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Speciated Metals							
Chromium, Hexavalent Volatile Organic Compounds	<0.20		0.20	ug/g	22-AUG-19	27-AUG-19	R4769342
Acetone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chloroform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,4-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dichlorodifluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,2-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,1-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methylene Chloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		28-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	26-AUG-19	28-AUG-19	R4774229
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Ethyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
MTBE	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Styrene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-11 DUP15 Sampled By: ANDREW V on 19-AUG-19 @ 12:10 Matrix: SOIL							
Volatile Organic Compounds							
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Toluene	<0.080		0.080	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichloroethylene	<0.010		0.010	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichlorofluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
o-Xylene	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
m+p-Xylenes	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
Xylenes (Total)	<0.050		0.050	ug/g		28-AUG-19	
Surrogate: 4-Bromofluorobenzene	81.6		50-140	%	26-AUG-19	28-AUG-19	R4774229
Surrogate: 1,4-Difluorobenzene Hydrocarbons	97.7		50-140	%	26-AUG-19	28-AUG-19	R4774229
F1 (C6-C10)	<5.0		5.0	ug/g	26-AUG-19	28-AUG-19	R4774229
F1-BTEX	<5.0		5.0	ug/g		28-AUG-19	
F2 (C10-C16)	<10		10	ug/g	22-AUG-19	26-AUG-19	R4769692
F2-Naphth	<10		10	ug/g		28-AUG-19	
F3 (C16-C34)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
F3-PAH	<50		50	ug/g		28-AUG-19	
F4 (C34-C50)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
Total Hydrocarbons (C6-C50)	<72		72	ug/g		28-AUG-19	
Chrom. to baseline at nC50	YES				22-AUG-19	26-AUG-19	R4769692
Surrogate: 2-Bromobenzotrifluoride	92.8		60-140	%	22-AUG-19	26-AUG-19	R4769692
Surrogate: 3,4-Dichlorotoluene	56.2	SURR-ND	60-140	%	26-AUG-19	28-AUG-19	R4774229
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Acenaphthylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(b)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(k)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Chrysene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Fluorene	<0.050		0.050	ug/g	22-AUG-19		R4772851
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		28-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
, monymaphina one	V0.000		0.000	ug/g	22 7100 10	207.00 10	11777200

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-11 DUP15 Sampled By: ANDREW V on 19-AUG-19 @ 12:10 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
2-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
Naphthalene	<0.013		0.013	ug/g	22-AUG-19	28-AUG-19	
Phenanthrene	<0.046		0.046	ug/g	22-AUG-19	28-AUG-19	
Pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Surrogate: 2-Fluorobiphenyl	102.8		50-140	%	22-AUG-19	28-AUG-19	
Surrogate: p-Terphenyl d14	94.6		50-140	%	22-AUG-19	28-AUG-19	
L2333129-12 MW106-7.5-8.5 Sampled By: ANDREW V on 20-AUG-19 @ 08:35 Matrix: SOIL							
Physical Tests							
Conductivity	0.703		0.0040	mS/cm		29-AUG-19	R4776634
% Moisture	4.72		0.10	%	21-AUG-19	22-AUG-19	R4762874
рН	8.34		0.10	pH units		23-AUG-19	R4767069
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	23-AUG-19	27-AUG-19	R4769677
Saturated Paste Extractables							
SAR	16.3		0.10	SAR		29-AUG-19	
Calcium (Ca)	3.11		0.50	mg/L		29-AUG-19	
Magnesium (Mg)	0.96		0.50	mg/L		29-AUG-19	
Sodium (Na) Metals	128		0.50	mg/L		29-AUG-19	R4776328
Antimony (Sb)	<1.0		1.0	110/0	29-AUG-19	29-AUG-19	R4777686
Arsenic (As)	1.5		1.0 1.0	ug/g ug/g	29-AUG-19 29-AUG-19		R4777686
Barium (Ba)	9.4		1.0		29-AUG-19	29-AUG-19	
Beryllium (Be)	<0.50		0.50	ug/g	29-AUG-19 29-AUG-19	29-AUG-19 29-AUG-19	
Boron (B)	<5.0		5.0	ug/g	29-AUG-19	29-AUG-19	
Boron (B), Hot Water Ext.	<0.10		0.10	ug/g	29-AUG-19	29-AUG-19	
Cadmium (Cd)	<0.10		0.10	ug/g ug/g	29-AUG-19 29-AUG-19	29-AUG-19 29-AUG-19	
Chromium (Cr)	7.0		1.0	ug/g ug/g	29-AUG-19	29-AUG-19	R4777686
Cobalt (Co)	1.6		1.0	ug/g	29-AUG-19	29-AUG-19	
Copper (Cu)	6.3		1.0	ug/g ug/g	29-AUG-19	29-AUG-19	R4777686
Lead (Pb)	14.5		1.0	ug/g ug/g	29-AUG-19	29-AUG-19	R4777686
Mercury (Hg)	0.0503		0.0050	ug/g	29-AUG-19	29-AUG-19	
Molybdenum (Mo)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Nickel (Ni)	3.7		1.0	ug/g	29-AUG-19	29-AUG-19	
Selenium (Se)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	
Silver (Ag)	<0.20		0.20	ug/g	29-AUG-19	29-AUG-19	R4777686
Thallium (TI)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Uranium (U)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	
Vanadium (V)	11.3		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Zinc (Zn)	67.8		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Speciated Metals	00		0.0	~∌′ છ		==	

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-12 MW106-7.5-8.5 Sampled By: ANDREW V on 20-AUG-19 @ 08:35 Matrix: SOIL							
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	22-AUG-19	27-AUG-19	R4769342
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chloroform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,4-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dichlorodifluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methylene Chloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		28-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	26-AUG-19	28-AUG-19	R4774229
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Ethyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
MTBE	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Styrene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Toluene	<0.080		0.080	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichloroethylene	<0.010		0.010	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichlorofluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-12 MW106-7.5-8.5 Sampled By: ANDREW V on 20-AUG-19 @ 08:35 Matrix: SOIL							
Volatile Organic Compounds							
o-Xylene	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
m+p-Xylenes	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
Xylenes (Total)	<0.050		0.050	ug/g		28-AUG-19	
Surrogate: 4-Bromofluorobenzene	89.9		50-140	%	26-AUG-19	28-AUG-19	R4774229
Surrogate: 1,4-Difluorobenzene	105.2		50-140	%	26-AUG-19	28-AUG-19	R4774229
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	26-AUG-19	28-AUG-19	R4774229
F1-BTEX	<5.0		5.0	ug/g		28-AUG-19	
F2 (C10-C16)	<10		10	ug/g	22-AUG-19	26-AUG-19	R4769692
F2-Naphth	<10		10	ug/g		28-AUG-19	
F3 (C16-C34)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
F3-PAH	<50		50	ug/g		28-AUG-19	
F4 (C34-C50)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
Total Hydrocarbons (C6-C50)	<72		72	ug/g		28-AUG-19	
Chrom. to baseline at nC50	YES				22-AUG-19	26-AUG-19	R4769692
Surrogate: 2-Bromobenzotrifluoride	94.8		60-140	%	22-AUG-19	26-AUG-19	R4769692
Surrogate: 3,4-Dichlorotoluene	61.4		60-140	%	26-AUG-19	28-AUG-19	R4774229
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Acenaphthylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Benzo(a)pyrene	0.068		0.050	ug/g	22-AUG-19	28-AUG-19	
Benzo(b)fluoranthene	0.108		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(g,h,i)perylene	0.063		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(k)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Chrysene	0.054		0.050	ug/g	22-AUG-19		
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Fluoranthene	0.080		0.050	ug/g	22-AUG-19	28-AUG-19	
Fluorene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Indeno(1,2,3-cd)pyrene	0.055		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		28-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	
2-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	
Naphthalene	<0.013		0.013	ug/g	22-AUG-19	28-AUG-19	
Phenanthrene	<0.046		0.046	ug/g	22-AUG-19	28-AUG-19	
Pyrene	0.072		0.050	ug/g	22-AUG-19	28-AUG-19	
Surrogate: 2-Fluorobiphenyl	103.3		50-140	%	22-AUG-19	28-AUG-19	
Surrogate: p-Terphenyl d14	95.4		50-140	%	22-AUG-19	28-AUG-19	R4772851
L2333129-14 MW106-17.5-18.5 Sampled By: ANDREW V on 20-AUG-19 @ 09:22 Matrix: SOIL							

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-14 MW106-17.5-18.5 Sampled By: ANDREW V on 20-AUG-19 @ 09:22 Matrix: SOIL							
Physical Tests							
Conductivity	0.756		0.0040	mS/cm		06-SEP-19	R4784808
Saturated Paste Extractables							
SAR	24.8		0.10	SAR		06-SEP-19	R4784493
Calcium (Ca)	1.51		0.50	mg/L		06-SEP-19	R4784493
Magnesium (Mg)	0.64		0.50	mg/L		06-SEP-19	R4784493
Sodium (Na)	144		0.50	mg/L		06-SEP-19	R4784493
.2333129-15 BH203-0.5-2 Sampled By: ANDREW V on 20-AUG-19 @ 15:25 Matrix: SOIL							
Physical Tests							
Conductivity	0.750		0.0040	mS/cm		30-AUG-19	R4778337
% Moisture	4.29		0.10	%	21-AUG-19	22-AUG-19	R4762874
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	23-AUG-19	27-AUG-19	R4769677
Saturated Paste Extractables				0.5			
SAR	5.24		0.10	SAR		29-AUG-19	
Calcium (Ca)	3.15		0.50	mg/L		29-AUG-19	
Magnesium (Mg) Sodium (Na)	6.32		0.50	mg/L		29-AUG-19 29-AUG-19	
Metals	70.1		0.50	mg/L		29-AUG-19	K4776908
Antimony (Sb)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Arsenic (As)	2.5		1.0	ug/g	29-AUG-19	29-AUG-19	
Barium (Ba)	29.7		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Beryllium (Be)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Boron (B)	5.3		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Boron (B), Hot Water Ext.	0.15		0.10	ug/g	29-AUG-19	29-AUG-19	R4777833
Cadmium (Cd)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Chromium (Cr)	8.2		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Cobalt (Co)	2.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Copper (Cu)	9.2		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Lead (Pb)	30.6		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Mercury (Hg)	0.240		0.0050	ug/g	29-AUG-19	29-AUG-19	R4777068
Molybdenum (Mo)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Nickel (Ni)	5.1		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Selenium (Se)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Silver (Ag)	<0.20		0.20	ug/g	29-AUG-19	29-AUG-19	R4777686
Thallium (TI)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Uranium (U)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Vanadium (V)	13.3		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Zinc (Zn)	89.5		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	22-AUG-19	27-AUG-19	R4769342

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-15 BH203-0.5-2 Sampled By: ANDREW V on 20-AUG-19 @ 15:25 Matrix: SOIL							
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chloroform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,4-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dichlorodifluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methylene Chloride	<0.063	RRR	0.063	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		28-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	26-AUG-19	28-AUG-19	R4774229
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Ethyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
МТВЕ	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Styrene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Toluene	<0.080		0.080	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichloroethylene	<0.010		0.010	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichlorofluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
o-Xylene	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
m+p-Xylenes	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-15 BH203-0.5-2 Sampled By: ANDREW V on 20-AUG-19 @ 15:25 Matrix: SOIL							
Volatile Organic Compounds							
Xylenes (Total)	<0.050		0.050	ug/g		28-AUG-19	
Surrogate: 4-Bromofluorobenzene	92.4		50-140	%	26-AUG-19	28-AUG-19	R4774229
Surrogate: 1,4-Difluorobenzene	110.1		50-140	%	26-AUG-19	28-AUG-19	R4774229
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	26-AUG-19	28-AUG-19	R4774229
F1-BTEX	<5.0		5.0	ug/g		28-AUG-19	
F2 (C10-C16)	<20	DLM	20	ug/g	22-AUG-19	26-AUG-19	R4769692
F2-Naphth	<20		20	ug/g		28-AUG-19	
F3 (C16-C34)	190	DLM	100	ug/g	22-AUG-19	26-AUG-19	R4769692
F3-PAH	190		100	ug/g		28-AUG-19	
F4 (C34-C50)	520	DLM	100	ug/g	22-AUG-19	26-AUG-19	R4769692
F4G-SG (GHH-Silica)	1710		250	ug/g	24-AUG-19	24-AUG-19	R4773168
Total Hydrocarbons (C6-C50)	710		140	ug/g		28-AUG-19	
Chrom. to baseline at nC50	NO				22-AUG-19	26-AUG-19	R4769692
Surrogate: 2-Bromobenzotrifluoride	97.0		60-140	%	22-AUG-19	26-AUG-19	R4769692
Surrogate: 3,4-Dichlorotoluene	68.2		60-140	%	26-AUG-19	28-AUG-19	R4774229
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Acenaphthylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Anthracene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Benzo(a)anthracene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Benzo(a)pyrene	0.073		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Benzo(b)fluoranthene	0.104		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Benzo(g,h,i)perylene	0.102		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Benzo(k)fluoranthene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Chrysene	0.056		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Fluoranthene	0.063		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Fluorene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4771436
Indeno(1,2,3-cd)pyrene	0.065		0.050	ug/g	26-AUG-19	28-AUG-19	
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		28-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4771436
2-Methylnaphthalene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	
Naphthalene	<0.013		0.013	ug/g	26-AUG-19	28-AUG-19	
Phenanthrene	<0.046		0.046	ug/g	26-AUG-19	28-AUG-19	
Pyrene	0.067		0.050	ug/g	26-AUG-19	28-AUG-19	
Surrogate: 2-Fluorobiphenyl	94.1		50-140	% %	26-AUG-19	28-AUG-19	
Surrogate: p-Terphenyl d14	82.5		50-140	%	26-AUG-19	28-AUG-19	R4771436
Report Remarks : RRR - Detection Limit Raised due t		vity	00 170	70			1.4771400
L2333129-16 BH203-0.5-2 Sampled By: ANDREW V on 20-AUG-19 @ 15:25 Matrix: SOIL	Solidaria de la companya de la compa	,					

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

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					Analyzed	Batch
3.46		0.25	%		09-SEP-19	R4791293
<0.000050		0.000050	mg/kg	17-SEP-19	17-SEP-19	R4820510
1.26		0.0040	mS/cm		30-AUG-19	R4778337
6.81		0.10	%	21-AUG-19	22-AUG-19	R4762874
8.33		0.10	pH units		23-AUG-19	R4767069
<0.050		0.050	ug/g	23-AUG-19	27-AUG-19	R4769677
19.0		0.10	SAR		29-AUG-19	R4776908
3.79		0.50	mg/L		29-AUG-19	R4776908
1.72		0.50	mg/L		29-AUG-19	R4776908
178		0.50	mg/L		29-AUG-19	R4776908
<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
1.9		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
18.4		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
5.6		5.0		29-AUG-19	29-AUG-19	R4777686
<0.10		0.10		29-AUG-19	29-AUG-19	R4777833
<0.50		0.50		29-AUG-19	29-AUG-19	R4777686
7.9		1.0		29-AUG-19	29-AUG-19	R4777686
		1.0		29-AUG-19	29-AUG-19	R4777686
		1.0		29-AUG-19	29-AUG-19	
						R4777686
						R4777068
<1.0						
						R4777686
						R4777686
						R4777686
12.0		5.0	ug/g	20 700-19	20 700-19	1.7777000
<0.20		0.20	ug/a	22-AUG-19	27-AUG-19	R4769342
		0.20	-			
<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
	<0.000050 1.26 6.81 8.33 <0.050 19.0 3.79 1.72 178 <1.0 1.9 18.4 <0.50 5.6 <0.10 <0.50 7.9 2.7 7.4 10.8 <0.0050 <1.0 5.6 <1.0 <0.20 <0.50 <1.0 15.5 72.0 <0.20	<0.000050 1.26 6.81 8.33 <0.050 19.0 3.79 1.72 178 <1.0 1.9 18.4 <0.50 5.6 <0.10 <0.50 7.9 2.7 7.4 10.8 <0.0050 <1.0 5.6 <1.0 0.20 <0.50 <1.0 15.5 72.0 <0.20	<0.000050	1.26	1.26	1.26

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-17 BH203-7.5-9.5 Sampled By: ANDREW V on 20-AUG-19 @ 15:51 Matrix: SOIL							
Volatile Organic Compounds							
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chloroform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,4-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dichlorodifluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methylene Chloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		28-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	26-AUG-19	28-AUG-19	R4774229
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Ethyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
MTBE	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Styrene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Toluene	<0.080		0.080	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Trichloroethylene	<0.010		0.010	ug/g	26-AUG-19	28-AUG-19	
Trichlorofluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	
o-Xylene	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	
m+p-Xylenes	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
Xylenes (Total)	<0.050		0.050	ug/g		28-AUG-19	

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

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Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
88.4		50-140	%	26-AUG-19	28-AUG-19	R4774229
108.1		50-140	%	26-AUG-19	28-AUG-19	R4774229
<5.0		5.0	ug/g	26-AUG-19	28-AUG-19	R4774229
<5.0		5.0	ug/g		28-AUG-19	
<10		10	ug/g	22-AUG-19	26-AUG-19	R4769692
<10		10	ug/g		28-AUG-19	
<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
<50		50	ug/g		28-AUG-19	
<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
<72		72	ug/g		28-AUG-19	
YES				22-AUG-19	26-AUG-19	R4769692
89.9		60-140	%	22-AUG-19	26-AUG-19	R4769692
62.8		60-140	%	26-AUG-19	28-AUG-19	R4774229
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.042		0.042	ug/g		28-AUG-19	
<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.013		0.013	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.046		0.046	ug/g	22-AUG-19	28-AUG-19	R4772851
<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
100.5		50-140	%	22-AUG-19	28-AUG-19	R4772851
90.7		50-140	%	22-AUG-19	28-AUG-19	R4772851
1.31		0.0040	mS/cm		06-SEP-19	R4784808
	88.4 108.1 <5.0 <5.0 <10 <10 <50 <50 <72 YES 89.9 62.8 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 <0.050 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22-AUG-19 10 10 ug/g 22-AUG-19 10 10 ug/g 22-AUG-19 50 50 ug/g 22-AUG-19 50 50 ug/g 22-AUG-19 50 ug/g 22-AUG-19 50 ug/g 22-AUG-19 50 ug/g 22-AUG-19 72 ug/g YES 22-AUG-19 62.8 60-140 % 26-AUG-19 62.8 60-140 % 26-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.030 0.030 ug/g 22-AUG-19 <0.031 ug/g 22-AUG-19 <0.032 ug/g 22-AUG-19 <0.033 ug/g 22-AUG-19 <0.034 ug/g 22-AUG-19 <0.035 ug/g 22-AUG-19 <0.030 0.030 ug/g 22-AUG-19 <0.031 ug/g 22-AUG-19 <0.032 ug/g 22-AUG-19 <0.034 ug/g 22-AUG-19 <0.035 ug/g 22-AUG-19 <0.030 0.030 ug/g 22-AUG-19 <0.030 0.030 ug/g 22-AUG-19 <0.046 0.046 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 22-AUG-19 <0.050 0.050 ug/g 2	88.4 50-140 % 26-AUG-19 28-AUG-19 108.1 50-140 % 26-AUG-19 28-AUG-19 28-AUG-19 25.0 5.0 ug/g 26-AUG-19 28-AUG-19 28-AUG-19 26.0 5.0 ug/g 22-AUG-19 28-AUG-19 28-AUG-19 26-AUG-19

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-19 BH203-15-17 Sampled By: ANDREW V on 20-AUG-19 @ 16:19 Matrix: SOIL							
Saturated Paste Extractables							
SAR	16.2		0.10	SAR		06-SEP-19	R4784493
Calcium (Ca)	7.03		0.50	mg/L		06-SEP-19	1
Magnesium (Mg)	5.64		0.50	mg/L		06-SEP-19	R4784493
Sodium (Na)	238		0.50	mg/L		06-SEP-19	R4784493
L2333129-20 TRIP BLANK-20180821 Sampled By: ANDREW V on 21-AUG-19 Matrix: SOIL				-			
Physical Tests							
% Moisture	<0.10		0.10	%	21-AUG-19	22-AUG-19	R4762874
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chloroform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,4-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dichlorodifluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methylene Chloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		28-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	26-AUG-19	28-AUG-19	R4774229
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Methyl Ethyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
MTBE	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Styrene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-20 TRIP BLANK-20180821 Sampled By: ANDREW V on 21-AUG-19 Matrix: SOIL							
Volatile Organic Compounds							
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Toluene	<0.080		0.080	ug/g	26-AUG-19	28-AUG-19	
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
1,1,2-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Trichloroethylene	<0.010		0.010	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichlorofluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
o-Xylene	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	
m+p-Xylenes	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
Xylenes (Total)	<0.050		0.050	ug/g		28-AUG-19	
Surrogate: 4-Bromofluorobenzene	91.6		50-140	%	26-AUG-19	28-AUG-19	R4774229
Surrogate: 1,4-Difluorobenzene	107.7		50-140	%	26-AUG-19	28-AUG-19	
L2333129-21 MW101-7.5-9.5 Sampled By: ANDREW V on 21-AUG-19 @ 08:54 Matrix: SOIL							
Physical Tests							
Conductivity	0.303		0.0040	mS/cm		29-AUG-19	R4777617
% Moisture	7.89		0.10	%	21-AUG-19	22-AUG-19	R4762874
рН	8.12		0.10	pH units		23-AUG-19	R4767069
Cyanides							
Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	23-AUG-19	27-AUG-19	R4769677
Saturated Paste Extractables							
SAR	9.00	SAR:M	0.10	SAR		29-AUG-19	
Calcium (Ca)	2.75		0.50	mg/L		29-AUG-19	
Magnesium (Mg)	<0.50		0.50	mg/L		29-AUG-19	
Sodium (Na)	54.2		0.50	mg/L		29-AUG-19	R4777669
Metals	4.0		4.0		00 4110 40	00 4110 40	D 4777000
Antimony (Sb)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	
Arsenic (As)	2.2		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Barium (Ba)	21.3		1.0	ug/g	29-AUG-19	29-AUG-19	
Beryllium (Be)	<0.50		0.50	ug/g	29-AUG-19 29-AUG-19	29-AUG-19	R4777686
Boron (B)	6.8		5.0	ug/g		29-AUG-19	R4777686
Boron (B), Hot Water Ext.	0.17		0.10	ug/g	29-AUG-19	29-AUG-19	
Cadmium (Cd) Chromium (Cr)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
()	9.8		1.0	ug/g	29-AUG-19	29-AUG-19	
Cobalt (Co)	3.2		1.0	ug/g	29-AUG-19	29-AUG-19	
Copper (Cu) Lead (Pb)	9.3		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
	13.4		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Mercury (Hg)	0.0138		0.0050	ug/g	29-AUG-19	29-AUG-19	
Molybdenum (Mo) Nickel (Ni)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
	7.2		1.0	ug/g	29-AUG-19	29-AUG-19 29-AUG-19	
Selenium (Se)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	K4///000

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-21 MW101-7.5-9.5 Sampled By: ANDREW V on 21-AUG-19 @ 08:54 Matrix: SOIL							
Metals							
Silver (Ag)	<0.20		0.20	ug/g	29-AUG-19	29-AUG-19	R4777686
Thallium (TI)	<0.50		0.50	ug/g	29-AUG-19	29-AUG-19	R4777686
Uranium (U)	<1.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Vanadium (V)	17.0		1.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Zinc (Zn)	94.2		5.0	ug/g	29-AUG-19	29-AUG-19	R4777686
Speciated Metals							
Chromium, Hexavalent	<0.20		0.20	ug/g	22-AUG-19	27-AUG-19	R4769342
Volatile Organic Compounds							
Acetone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Benzene	<0.0068		0.0068	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromodichloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromoform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Bromomethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Carbon tetrachloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dibromochloromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Chloroform	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dibromoethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,4-Dichlorobenzene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Dichlorodifluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methylene Chloride	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,2-Dichloropropane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
cis-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
trans-1,3-Dichloropropene	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g		28-AUG-19	
Ethylbenzene	<0.018		0.018	ug/g	26-AUG-19	28-AUG-19	R4774229
n-Hexane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Ethyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
Methyl Isobutyl Ketone	<0.50		0.50	ug/g	26-AUG-19	28-AUG-19	R4774229
MTBE	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Styrene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Tetrachloroethylene	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229

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

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Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-21 MW101-7.5-9.5 Sampled By: ANDREW V on 21-AUG-19 @ 08:54 Matrix: SOIL							
Volatile Organic Compounds							
Toluene	<0.080		0.080	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,1-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
1,1,2-Trichloroethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichloroethylene	<0.010		0.010	ug/g	26-AUG-19	28-AUG-19	R4774229
Trichlorofluoromethane	<0.050		0.050	ug/g	26-AUG-19	28-AUG-19	R4774229
Vinyl chloride	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
o-Xylene	<0.020		0.020	ug/g	26-AUG-19	28-AUG-19	R4774229
m+p-Xylenes	<0.030		0.030	ug/g	26-AUG-19	28-AUG-19	R4774229
Xylenes (Total)	<0.050		0.050	ug/g		28-AUG-19	
Surrogate: 4-Bromofluorobenzene	93.3		50-140	%	26-AUG-19	28-AUG-19	R4774229
Surrogate: 1,4-Difluorobenzene	113.0		50-140	%	26-AUG-19	28-AUG-19	R4774229
Hydrocarbons							
F1 (C6-C10)	<5.0		5.0	ug/g	26-AUG-19	28-AUG-19	R4774229
F1-BTEX	<5.0		5.0	ug/g		28-AUG-19	
F2 (C10-C16)	<10		10	ug/g	22-AUG-19	26-AUG-19	R4769692
F2-Naphth	<10		10	ug/g		28-AUG-19	
F3 (C16-C34)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
F3-PAH	<50		50	ug/g		28-AUG-19	
F4 (C34-C50)	<50		50	ug/g	22-AUG-19	26-AUG-19	R4769692
Total Hydrocarbons (C6-C50)	<72		72	ug/g		28-AUG-19	
Chrom. to baseline at nC50	YES				22-AUG-19	26-AUG-19	R4769692
Surrogate: 2-Bromobenzotrifluoride	91.5		60-140	%	22-AUG-19	26-AUG-19	R4769692
Surrogate: 3,4-Dichlorotoluene	65.2		60-140	%	26-AUG-19	28-AUG-19	R4774229
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Acenaphthylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(a)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(b)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(g,h,i)perylene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Benzo(k)fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Chrysene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Dibenzo(ah)anthracene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Fluoranthene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Fluorene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	R4772851
Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
1+2-Methylnaphthalenes	<0.042		0.042	ug/g		28-AUG-19	
1-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19	28-AUG-19	R4772851
2-Methylnaphthalene	<0.030		0.030	ug/g	22-AUG-19		R4772851
• •	1	1		1 3.3	1	1	

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

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2333129-21 MW101-7.5-9.5 Sampled By: ANDREW V on 21-AUG-19 @ 08:54 Matrix: SOIL							
Polycyclic Aromatic Hydrocarbons							
Phenanthrene	<0.046		0.046	ug/g	22-AUG-19	28-AUG-19	R4772851
Pyrene	< 0.050		0.050	ug/g	22-AUG-19	28-AUG-19	
Surrogate: 2-Fluorobiphenyl	101.5		50-140	%	22-AUG-19	28-AUG-19	
Surrogate: p-Terphenyl d14	94.1		50-140	%	22-AUG-19	28-AUG-19	
2333129-23 MW101-20-20.5 Sampled By: ANDREW V on 21-AUG-19 @ 09:37 Matrix: SOIL							
Saturated Paste Extractables							
SAR	14.3		0.10	SAR		06-SEP-19	R4784493
Calcium (Ca)	2.45		0.50	mg/L		06-SEP-19	R4784493
Magnesium (Mg)	1.22		0.50	mg/L		06-SEP-19	R4784493
Sodium (Na)	110		0.50	mg/L		06-SEP-19	R4784493

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

CE751900.A.CS.EV.A2

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Reference Information

Sample Parameter Qualifier key listed:

Qualifier	Description
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
RRR	Refer to Report Remarks for issues regarding this analysis
SAR:M	Reported SAR represents a maximum value. Actual SAR may be lower if both Ca and Mg were detectable.
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**			
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).

CN-WAD-R511-WT Cyanide (WAD)-O.Reg 153/04 (July 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).

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

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 CCME CWS-PHC, Pub #1310, Dec 2001-S Parameters

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.

Reference Information

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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), 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 quideline 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), 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).

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).

MEHG-GCAF-VA

Soil

Methylmercury in Soil by GCAFS

DeWild et al. (2004)

This method follows procedures published by DeWild, Olund, Olsen and Tate (2004) for the US Geological Survey (Techniques and Methods 5A-7). Samples are leached with an acidic copper sulphate solution to solubilize methylmercury for inorganic complexes. The methylmercury is then extracted into dichloromethane and then an aliquot is back extracted into ultra-pure water. The extract is analyzed by aqueous phase ethylation, purge and trap, desorption and GC separation. The separated species are then pyrolized to elemental Hg and quantified by cold vapour atomic flourescence spectroscopy. Results are reported "as MeHg".

MET-200.2-CCMS-WT

Soil

Metals in Soil by CRC ICPMS

EPA 200.2/6020A (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-VA

Soil

Moisture content

CCME PHC in Soil - Tier 1 (mod)

This analysis is carried out gravimetrically by drying the sample at 105 C for a minimum of two hours.

MOISTURE-WT

Soil

% Moisture

CCME PHC in Soil - Tier 1 (mod)

Reference Information

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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), 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

nН

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).

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).

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), 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-

Soil

Sum of Xylene Isomer

CALCULATION

WT Concentrations

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:

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.



Workorder: L2333129 Report Date: 11-NOV-19 Page 1 of 22

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result (Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	Soil							_
Batch R4776610								
WG3146500-4 DUP Boron (B), Hot Water Ex	ct.	L2332993-1 <0.10	<0.10	RPD-NA	ug/g	N/A	30	29-AUG-19
WG3146500-2 IRM Boron (B), Hot Water Ex	ct.	WT SAR3	95.4		%		70-130	29-AUG-19
WG3146500-3 LCS Boron (B), Hot Water Ex	ct.		91.4		%		70-130	29-AUG-19
WG3146500-1 MB Boron (B), Hot Water Ex	ct.		<0.10		ug/g		0.1	29-AUG-19
Batch R4777576								
WG3146503-4 DUP Boron (B), Hot Water Ex	ct.	L2331567-15 0.25	0.27		ug/g	6.9	30	29-AUG-19
WG3146503-2 IRM Boron (B), Hot Water Ex		WT SAR3	105.1		%		70-130	29-AUG-19
WG3146503-3 LCS Boron (B), Hot Water Ex			91.5		%			
, ,	α.		91.5		70		70-130	29-AUG-19
WG3146503-1 MB Boron (B), Hot Water Ex	ct.		<0.10		ug/g		0.1	29-AUG-19
Batch R4777833								
WG3146741-4 DUP Boron (B), Hot Water Ex	ct.	L2333560-1 3.32	3.31		ug/g	0.3	30	29-AUG-19
WG3146741-2 IRM Boron (B), Hot Water Ex	ct.	WT SAR3	102.4		%		70-130	29-AUG-19
WG3146741-3 LCS Boron (B), Hot Water Ex	rt.		80.0		%		70-130	29-AUG-19
WG3146741-1 MB Boron (B), Hot Water Ex	ct.		<0.10		ug/g		0.1	29-AUG-19
CN-WAD-R511-WT	Soil							
Batch R4768449								
WG3140475-3 DUP Cyanide, Weak Acid Dis	s	L2332408-2 <0.050	<0.050	RPD-NA	ug/g	N/A	35	23-AUG-19
WG3140475-2 LCS Cyanide, Weak Acid Dis	s		98.0		%		80-120	23-AUG-19
WG3140475-1 MB Cyanide, Weak Acid Dis	s		<0.050		ug/g		0.05	23-AUG-19
WG3140475-4 MS Cyanide, Weak Acid Dis	s	L2332408-2	106.1		%		70-130	23-AUG-19



Workorder: L2333129 Report Date: 11-NOV-19 Page 2 of 22

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CN-WAD-R511-WT	Soil							
Batch R4769677 WG3141063-3 DUP Cyanide, Weak Acid D		L2333629-1 <0.050	<0.050	RPD-NA	ug/g	N/A	35	27-AUG-19
WG3141063-2 LCS Cyanide, Weak Acid D	iss		100.9		%		80-120	27-AUG-19
WG3141063-1 MB Cyanide, Weak Acid D	iss		<0.050		ug/g		0.05	27-AUG-19
WG3141063-4 MS Cyanide, Weak Acid D	iss	L2333629-1	93.1		%		70-130	27-AUG-19
CR-CR6-IC-WT	Soil							
Batch R4769342		WT 00 0040						
WG3140579-4 CRM Chromium, Hexavalen		WT-SQC012	103.1		%		70-130	27-AUG-19
WG3140579-3 DUP Chromium, Hexavalen	t	L2333409-10 0.23	0.30		ug/g	26	35	27-AUG-19
WG3140579-2 LCS Chromium, Hexavalen	t		103.8		%		80-120	27-AUG-19
WG3140579-1 MB Chromium, Hexavalen	t		<0.20		ug/g		0.2	27-AUG-19
EC-WT	Soil							
Batch R4776634	1							
WG3146522-4 DUP Conductivity		WG3146522-3 0.618	0.603		mS/cm	2.5	20	29-AUG-19
WG3146522-2 IRM Conductivity		WT SAR3	90.0		%		70-130	29-AUG-19
WG3146764-1 LCS Conductivity			99.6		%		90-110	29-AUG-19
WG3146522-1 MB Conductivity			<0.0040		mS/cm		0.004	29-AUG-19
Batch R4776668	3							
WG3146514-4 DUP Conductivity		WG3146514-3 0.0820	0.0760		mS/cm	7.6	20	29-AUG-19
WG3146514-2 IRM Conductivity		WT SAR3	99.0		%		70-130	29-AUG-19
WG3146775-1 LCS Conductivity			101.0		%		90-110	29-AUG-19
WG3146514-1 MB Conductivity			<0.0040		mS/cm		0.004	29-AUG-19



Workorder: L2333129 Report Date: 11-NOV-19 Page 3 of 22

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-WT		Soil							
Batch R4	777617								
WG3146724-4 Conductivity	DUP		WG3146724-3 0.224	0.208		mS/cm	7.4	20	29-AUG-19
WG3146724-2 Conductivity	IRM		WT SAR3	100.0		%		70-130	29-AUG-19
WG3147642-1 Conductivity	LCS			101.6		%		90-110	29-AUG-19
WG3146724-1 Conductivity	MB			<0.0040		mS/cm		0.004	29-AUG-19
Batch R4	778337								
WG3147350-7 Conductivity	DUP		WG3147350-6 0.750	0.744		mS/cm	0.8	20	30-AUG-19
WG3147350-2 Conductivity	IRM		WT SAR3	92.8		%		70-130	30-AUG-19
WG3147636-1 Conductivity	LCS			98.4		%		90-110	30-AUG-19
WG3147350-1 Conductivity	MB			<0.0040		mS/cm		0.004	30-AUG-19
Batch R4	784808								
WG3153567-4 Conductivity	DUP		WG3153567-3 0.263	0.246		mS/cm	6.7	20	06-SEP-19
WG3153567-2 Conductivity	IRM		WT SAR3	89.4		%		70-130	06-SEP-19
WG3153770-1 Conductivity	LCS			96.5		%		90-110	06-SEP-19
WG3153567-1 Conductivity	MB			<0.0040		mS/cm		0.004	06-SEP-19
F1-HS-511-WT		Soil							
Batch R4	774229								
WG3143298-4 F1 (C6-C10)	DUP		WG3143298-3 <5.0	<5.0	RPD-NA	ug/g	N/A	30	28-AUG-19
WG3143298-2 F1 (C6-C10)	LCS			109.3		%		80-120	28-AUG-19
WG3143298-1 F1 (C6-C10)	MB			<5.0		ug/g		5	28-AUG-19
Surrogate: 3,4-D	Dichloroto	oluene		73.4		%		60-140	28-AUG-19
WG3143298-6 F1 (C6-C10)	MS		L2333129-17	76.9		%		60-140	28-AUG-19



Workorder: L2333129 Report Date: 11-NOV-19 Page 4 of 22

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT		Soil							
Batch F	4769692								
WG3140412-3 F2 (C10-C16)			WG3140412-5 <10	<10	RPD-NA	ug/g	N/A	30	26-AUG-19
F3 (C16-C34)			<50	<50	RPD-NA	ug/g	N/A	30	26-AUG-19
F4 (C34-C50)			<50	<50	RPD-NA	ug/g	N/A	30	26-AUG-19
COMMEN WG3140412-2	-	ate exceeds ALS	DQO. Reported	non-detect	results for associa	ated samples we	re deemed to be	unaffected.	
F2 (C10-C16)				101.1		%		80-120	26-AUG-19
F3 (C16-C34)				99.2		%		80-120	26-AUG-19
F4 (C34-C50)				100.9		%		80-120	26-AUG-19
WG3140412-1 F2 (C10-C16)				<10		ug/g		10	26-AUG-19
F3 (C16-C34)				<50		ug/g		50	26-AUG-19
F4 (C34-C50)				<50		ug/g		50	26-AUG-19
Surrogate: 2-E	Bromobenz	otrifluoride		89.6		%		60-140	26-AUG-19
WG3140412-4 F2 (C10-C16)			WG3140412-5	99.98		%		60.440	26 AUC 40
F3 (C16-C34)				97.9		%		60-140	26-AUG-19
F4 (C34-C50)				101.3		%		60-140	26-AUG-19
,				101.5		70		60-140	26-AUG-19
F4G-ADD-511-W		Soil							
WG3146183-2				70.0		0/			
F4G-SG (GHI				76.0		%		60-140	24-AUG-19
WG3146183-1 F4G-SG (GH				<250		ug/g		250	24-AUG-19
HG-200.2-CVAA-	WT	Soil							
Batch R	4777068								
WG3146481-2 Mercury (Hg)	CRM		WT-CANMET-T	1LL1 95.0		%		70-130	29-AUG-19
WG3146481-6 Mercury (Hg)	DUP		WG3146481-5 0.0138	0.0221	J	ug/g	0.0083	0.01	29-AUG-19
WG3146481-3 Mercury (Hg)	LCS			100.0		%		80-120	29-AUG-19
WG3146481-1 Mercury (Hg)	MB			<0.0050		mg/kg		0.005	29-AUG-19
MEHG-GCAF-VA		Soil							



Workorder: L2333129 Report Date: 11-NOV-19 Page 5 of 22

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Meth-GCAF-V	Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Methylmericuny cas Methyl	MEHG-GCAF-VA	Soil							
Methylmercury (as MeHyl 2336633-4 2019 2336633-4 2336633-4 2336633-4 2336633-4 2336633-4 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 25 2336633-3 2336633-	Batch R48205	10							
WG3163133-4 DUP L2336633-4 mg/kg 8.5 30 17-SEP-19 WG3163133-3 LCS Methylmercury (as MeHg) 78.0 % 70-130 17-SEP-19 WG3163133-1 MB MB MB Methylmercury (as MeHg) 70-130 17-SEP-19 MET-200.2-CCMS-WT Soil Selection of Methylmercury (as MeHg) WT-CANMET-ILL1 WT-CANMET-ILL1 WT-CANMET-ILL1 Selection of Methylmercury (as MeHg) WT-CANMET-ILL1 WT-CANMET-ILL1 WT-CANMET-ILL1 WT-CANMET-ILL1			SQC-MEHG-I						
Methylmercury (as MeHg)	,	•		100.1		%		70-130	17-SEP-19
WG3163133-3 LCS MeHolymercury (as MeHol) 78.0 % 70.130 17.5EP-19 WG3163133-1 MB Colorosis Memory Me				0.000093		ma/ka	8.5	30	17-SED-10
Methylmercury (as MeHy)			0.00000	0.000000		99	0.0	00	17-0E1 -13
MET-200.2-CCMS-WT Soil Batch R4777686 WT-CANMET-ILL1 FAMILY RANGE SPEAR WT-CANMET-ILL1 PAMILY RANGE SPEAR WT-CANMET-ILL1 PAMILY RANGE SPEAR PAMILY RANGE SPEAR <td></td> <td>_</td> <td></td> <td>78.0</td> <td></td> <td>%</td> <td></td> <td>70-130</td> <td>17-SEP-19</td>		_		78.0		%		70-130	17-SEP-19
MET-200.2-CCMS-WT Soil Batch	WG3163133-1 MB								
Batch R4777686 WG3146481-2 CRM WT-CANMET-TLL1 CRM T0-130 29-AUG-19 Arlsenic (As) 96.5 % 70-130 29-AUG-19 Arlsenic (As) 96.8 % 70-130 29-AUG-19 Beryllium (Be) 90.8 % 70-130 29-AUG-19 Boron (B) 2.5 mg/kg 0-8.2 29-AUG-19 Cadmium (Cd) 92.4 % 70-130 29-AUG-19 Chromium (Cr) 96.6 % 70-130 29-AUG-19 Cobalt (Co) 95.7 % 70-130 29-AUG-19 Cobalt (Co) 97.2 % 70-130 29-AUG-19 Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Selenium (Se) 95.0 % 70-130 29-AUG-19 Silver (Ag) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.07 0.10 mg/kg 0.07-0.	Methylmercury (as M	eHg)		<0.000050)	mg/kg wwt		0.00005	17-SEP-19
WG3146481-2 Antimony (Sb) CRM Antimony (Sb) WT-CANMET-TILL1 96.5 % 70-130 29-AUG-19 Ansenic (As) 96.8 % 70-130 29-AUG-19 Barium (Ba) 84.8 % 70-130 29-AUG-19 Beryllium (Be) 90.8 % 70-130 29-AUG-19 Boron (B) 2.5 mg/kg -0-8.2 29-AUG-19 Cadmium (Cd) 92.4 % 70-130 29-AUG-19 Chromium (Cr) 96.6 % 70-130 29-AUG-19 Cobalt (Co) 95.7 % 70-130 29-AUG-19 Copper (Cu) 97.2 % 70-130 29-AUG-19 Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.4 % 70-130 29-AUG-19 Mickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Thallium (Ti) 0.105 mg/kg 0.13-0.33 29-AUG-19	MET-200.2-CCMS-WT	Soil							
Antimony (Sb) 96.5 % 70-130 29-AUG-19 Arsenic (As) 96.8 % 70-130 29-AUG-19 Barium (Ba) 84.8 % 70-130 29-AUG-19 Beryllium (Be) 90.8 % 70-130 29-AUG-19 Boron (B) 2.5 mg/kg 0-8.2 29-AUG-19 Cadmium (Cd) 92.4 % 70-130 29-AUG-19 Choraium (Cr) 96.6 % 70-130 29-AUG-19 Cobalt (Co) 95.7 % 70-130 29-AUG-19 Copper (Cu) 97.2 % 70-130 29-AUG-19 Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Silver (Ag) 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Vanadium (Batch R47776	86							
Arsenic (As) 96.8 % 70-130 29-AUG-19 Barium (Ba) 84.8 % 70-130 29-AUG-19 Beryllium (Be) 90.8 % 70-130 29-AUG-19 Boron (B) 2.5 mg/kg 0-8.2 29-AUG-19 Cadmium (Cd) 92.4 % 70-130 29-AUG-19 Chromium (Cr) 96.6 % 70-130 29-AUG-19 Cobalt (Co) 95.7 % 70-130 29-AUG-19 Coper (Cu) 97.2 % 70-130 29-AUG-19 Coper (Cu) 97.2 % 70-130 29-AUG-19 Molyddenum (Mo) 95.0 % 70-130 29-AUG-19 Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.11-0.51 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19		М	WT-CANMET			%		70-130	29-AHG-19
Barium (Ba) 84.8 % 70-130 29-AUG-19 Beryllium (Be) 90.8 % 70-130 29-AUG-19 Boron (B) 2.5 mg/kg 0-8.2 29-AUG-19 Cadmium (Cd) 92.4 % 70-130 29-AUG-19 Chromium (Cr) 96.6 % 70-130 29-AUG-19 Cobalt (Co) 95.7 % 70-130 29-AUG-19 Copper (Cu) 97.2 % 70-130 29-AUG-19 Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (Ti) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7									
Beryllium (Be) 90.8 % 70-130 29-AUG-19 Boron (B) 2.5 mg/kg 0-8.2 29-AUG-19 Cadmium (Cd) 92.4 % 70-130 29-AUG-19 Chromium (Cr) 96.6 % 70-130 29-AUG-19 Cobalt (Co) 95.7 % 70-130 29-AUG-19 Copper (Cu) 97.2 % 70-130 29-AUG-19 Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (Tl) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 WG3146481-5 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>									
Boron (B) 2.5 mg/kg 0-8.2 29-AUG-19 Cadmium (Cd) 92.4 % 70-130 29-AUG-19 Chromium (Cr) 96.6 % 70-130 29-AUG-19 Cobalt (Co) 95.7 % 70-130 29-AUG-19 Copper (Cu) 97.2 % 70-130 29-AUG-19 Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 WG3146481-5 DUP WG3146481-5 WG3146481-5 N/A 30 29-AUG-19 Arsenic (As) 2.17 2.14 ug/g 1.0 30 29-AUG-19 Barium (Ba) 0.21 0.21 ug/g									
Chromium (Cr) 96.6 % 70-130 29-AUG-19 Cobalt (Co) 95.7 % 70-130 29-AUG-19 Copper (Cu) 97.2 % 70-130 29-AUG-19 Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (TI) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 WG3146481-6 DUP WG3146481-5 WG3146481-5 WG3146481-5 Antimony (Sb) <0.10	Boron (B)			2.5		mg/kg			29-AUG-19
Cobalt (Co) 95.7 % 70-130 29-AUG-19 Copper (Cu) 97.2 % 70-130 29-AUG-19 Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (TI) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-6 DUP WG3146481-5 WG3146481-5 N/A 30 29-AUG-19 Arsenic (As) 2.17 2.14 ug/g 1.0 30 29-AUG-19 Barium (Ba) 20.1 19.9 ug/g 1.0 40 29-AUG-19 Beryllium (Be) 0.21	Cadmium (Cd)			92.4		%		70-130	29-AUG-19
Copper (Cu) 97.2 % 70-130 29-AUG-19 Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (Tl) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-6 Antimony (Sb) Arsenic (As) 2.17 2.14 ug/g N/A 30 29-AUG-19 Arsenic (As) 2.17 2.14 ug/g 1.0 30 29-AUG-19 Berium (Ba) 0.21 0.21 ug/g 1.0 30 29-AUG-19	Chromium (Cr)			96.6		%		70-130	29-AUG-19
Lead (Pb) 89.1 % 70-130 29-AUG-19 Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (Tl) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 WG3146481-6 Antimony (Sb) VG3146481-5 N/A 30 29-AUG-19 Arsenic (As) 2.17 2.14 ug/g 1.0 30 29-AUG-19 Barium (Ba) 20.1 19.9 ug/g 1.0 40 29-AUG-19 Beryllium (Be) 0.21 0.21 ug/g 1.0 30 29-AUG-19	Cobalt (Co)			95.7		%		70-130	29-AUG-19
Molybdenum (Mo) 95.0 % 70-130 29-AUG-19 Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (TI) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-6 DUP WG3146481-5 N/A 30 29-AUG-19 Arsenic (As) 2.17 2.14 ug/g 1.0 30 29-AUG-19 Barium (Ba) 20.1 19.9 ug/g 1.0 40 29-AUG-19 Beryllium (Be) 0.21 0.21 ug/g 1.0 30 29-AUG-19	Copper (Cu)			97.2		%		70-130	29-AUG-19
Nickel (Ni) 96.4 % 70-130 29-AUG-19 Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (TI) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-6 DUP WG3146481-5	Lead (Pb)			89.1		%		70-130	29-AUG-19
Selenium (Se) 0.29 mg/kg 0.11-0.51 29-AUG-19 Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (TI) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-6 DUP WG3146481-5 WG3146481-5 WG3146481-5 Antimony (Sb) <0.10	Molybdenum (Mo)			95.0		%		70-130	29-AUG-19
Silver (Ag) 0.21 mg/kg 0.13-0.33 29-AUG-19 Thallium (TI) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-6 DUP WG3146481-5 Value (Ag) N/A 30 29-AUG-19 Arsenic (As) 2.17 2.14 ug/g 1.0 30 29-AUG-19 Barium (Ba) 20.1 19.9 ug/g 1.0 40 29-AUG-19 Beryllium (Be) 0.21 0.21 ug/g 1.0 30 29-AUG-19	Nickel (Ni)			96.4		%		70-130	29-AUG-19
Thallium (TI) 0.105 mg/kg 0.077-0.18 29-AUG-19 Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-6 DUP WG3146481-5 WG314648	Selenium (Se)			0.29		mg/kg		0.11-0.51	29-AUG-19
Uranium (U) 87.9 % 70-130 29-AUG-19 Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-5 Antimony (Sb) <0.10	Silver (Ag)			0.21		mg/kg		0.13-0.33	29-AUG-19
Vanadium (V) 96.5 % 70-130 29-AUG-19 Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-6 DUP WG3146481-5 Vanadium (V) WG3146481-5 Vanadium (V) Vanadium (V) Vanadium (V) Vanadium (V) 70-130 29-AUG-19 Antimony (Sb) <a hr<="" td=""><td>Thallium (TI)</td><td></td><td></td><td>0.105</td><td></td><td>mg/kg</td><td></td><td>0.077-0.18</td><td>29-AUG-19</td>	Thallium (TI)			0.105		mg/kg		0.077-0.18	29-AUG-19
Zinc (Zn) 90.7 % 70-130 29-AUG-19 WG3146481-6 Antimony (Sb) DUP WG3146481-5 RPD-NA ug/g N/A 30 29-AUG-19 Arsenic (As) 2.17 2.14 ug/g 1.0 30 29-AUG-19 Barium (Ba) 20.1 19.9 ug/g 1.0 40 29-AUG-19 Beryllium (Be) 0.21 0.21 ug/g 1.0 30 29-AUG-19				87.9		%		70-130	29-AUG-19
WG3146481-6 Antimony (Sb) DUP VG3146481-5 Co.10 WG3146481-5 Co.10 RPD-NA ug/g N/A 30 29-AUG-19 Arsenic (As) 2.17 2.14 ug/g 1.0 30 29-AUG-19 Barium (Ba) 20.1 19.9 ug/g 1.0 40 29-AUG-19 Beryllium (Be) 0.21 0.21 ug/g 1.0 30 29-AUG-19	Vanadium (V)							70-130	29-AUG-19
Antimony (Sb) <0.10 <0.10 RPD-NA ug/g N/A 30 29-AUG-19 Arsenic (As) 2.17 2.14 ug/g 1.0 30 29-AUG-19 Barium (Ba) 20.1 19.9 ug/g 1.0 40 29-AUG-19 Beryllium (Be) 0.21 0.21 ug/g 1.0 30 29-AUG-19				90.7		%		70-130	29-AUG-19
Barium (Ba) 20.1 19.9 ug/g 1.0 40 29-AUG-19 Beryllium (Be) 0.21 0.21 ug/g 1.0 30 29-AUG-19		P			RPD-NA	ug/g	N/A	30	29-AUG-19
Beryllium (Be) 0.21 0.21 ug/g 1.0 30 29-AUG-19	Arsenic (As)		2.17	2.14		ug/g	1.0	30	29-AUG-19
	Barium (Ba)		20.1	19.9		ug/g	1.0	40	29-AUG-19
Boron (B) 6.8 6.7 ug/g 1.0 30 29-AUG-19	Beryllium (Be)		0.21	0.21		ug/g	1.0	30	29-AUG-19
	Boron (B)		6.8	6.7		ug/g	1.0	30	29-AUG-19



Workorder: L2333129 Report Date: 11-NOV-19 Page 6 of 22

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4777686								
WG3146481-6 DUP		WG3146481-5	0.244		ua/a	4.0	00	00 4110 40
Cadmium (Cd)		0.247	0.244		ug/g	1.0	30	29-AUG-19
Chromium (Cr)		8.90	8.81		ug/g	1.0	30	29-AUG-19
Cobalt (Co)		3.00	2.97		ug/g	1.0	30	29-AUG-19
Copper (Cu)		8.97	8.87		ug/g	1.0	30	29-AUG-19
Lead (Pb)		12.9	12.8		ug/g	1.0	40	29-AUG-19
Molybdenum (Mo)		0.29	0.29		ug/g	1.0	40	29-AUG-19
Nickel (Ni)		6.90	6.83		ug/g	1.0	30	29-AUG-19
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	29-AUG-19
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	29-AUG-19
Thallium (TI)		0.058	0.057		ug/g	1.0	30	29-AUG-19
Uranium (U)		0.405	0.401		ug/g	1.0	30	29-AUG-19
Vanadium (V)		15.7	15.6		ug/g	1.0	30	29-AUG-19
Zinc (Zn)		91.9	91.0		ug/g	1.0	30	29-AUG-19
WG3146481-4 LCS Antimony (Sb)			97.4		%		80-120	29-AUG-19
Arsenic (As)			94.6		%		80-120	29-AUG-19
Barium (Ba)			87.9		%		80-120	29-AUG-19
Beryllium (Be)			93.1		%		80-120	29-AUG-19
Boron (B)			90.5		%		80-120	29-AUG-19
Cadmium (Cd)			93.9		%		80-120	29-AUG-19
Chromium (Cr)			94.2		%		80-120	29-AUG-19
Cobalt (Co)			92.9		%		80-120	29-AUG-19
Copper (Cu)			92.7		%		80-120	29-AUG-19
Lead (Pb)			90.9		%		80-120	29-AUG-19
Molybdenum (Mo)			94.2		%		80-120	29-AUG-19
Nickel (Ni)			93.0		%		80-120	29-AUG-19
Selenium (Se)			95.8		%		80-120	29-AUG-19
Silver (Ag)			85.2		%		80-120	29-AUG-19
Thallium (TI)			89.4		%		80-120	29-AUG-19
Uranium (U)			90.4		%		80-120	29-AUG-19
Vanadium (V)			96.7		%		80-120	29-AUG-19
Zinc (Zn)			89.6		%		80-120	29-AUG-19

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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch R4777686								
WG3146481-1 MB			-0.10		m a/ka		0.1	00 1110 10
Antimony (Sb)			<0.10		mg/kg		0.1	29-AUG-19
Arsenic (As)			<0.10		mg/kg			29-AUG-19
Barium (Ba) Beryllium (Be)			<0.50		mg/kg		0.5	29-AUG-19
, , ,			<0.10		mg/kg		0.1	29-AUG-19
Boron (B)			<5.0		mg/kg		5	29-AUG-19
Cadmium (Cd)			<0.020		mg/kg		0.02	29-AUG-19
Chromium (Cr)			<0.50		mg/kg		0.5	29-AUG-19
Cobalt (Co)			<0.10		mg/kg		0.1	29-AUG-19
Copper (Cu)			<0.50		mg/kg		0.5	29-AUG-19
Lead (Pb)			<0.50		mg/kg		0.5	29-AUG-19
Molybdenum (Mo)			<0.10		mg/kg		0.1	29-AUG-19
Nickel (Ni)			<0.50		mg/kg		0.5	29-AUG-19
Selenium (Se)			<0.20		mg/kg		0.2	29-AUG-19
Silver (Ag)			<0.10		mg/kg		0.1	29-AUG-19
Thallium (TI)			< 0.050		mg/kg		0.05	29-AUG-19
Uranium (U)			<0.050		mg/kg		0.05	29-AUG-19
Vanadium (V)			<0.20		mg/kg		0.2	29-AUG-19
Zinc (Zn)			<2.0		mg/kg		2	29-AUG-19
MOISTURE-VA	Soil							
Batch R4791293								
WG3156039-3 DUP		L2341597-3	0.00		0/			
Moisture		2.42	2.28		%	6.3	20	09-SEP-19
WG3156039-2 LCS Moisture			99.6		%		90-110	09-SEP-19
WG3156039-1 MB Moisture			<0.25		%		0.25	09-SEP-19
MOISTURE-WT	Soil							
Batch R4762874								
WG3139637-3 DUP % Moisture		L2333138-6 17.0	17.0		%	0.0	20	22-AUG-19
WG3139637-2 LCS % Moisture			100.3		%		90-110	22-AUG-19
WG3139637-1 MB % Moisture			<0.10		%		0.1	22-AUG-19



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT	Soil							
Batch R4764565	5							
WG3140117-3 DUP % Moisture		L2328007-2 28.9	29.1		%	0.7	20	22-AUG-19
WG3140117-2 LCS % Moisture			101.0		%		90-110	22-AUG-19
WG3140117-1 MB % Moisture			<0.10		%		0.1	22-AUG-19
PAH-511-WT	Soil							
Batch R4771436	5							
WG3143063-3 DUP		WG3143063-			,			
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	28-AUG-19
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	28-AUG-19
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Anthracene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(a)anthracene		< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(a)pyrene		< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(b)fluoranthene		< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(g,h,i)perylene		< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(k)fluoranthene		< 0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Chrysene		< 0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Dibenzo(ah)anthracen	Э	<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Fluorene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Indeno(1,2,3-cd)pyrene	e	<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	28-AUG-19
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	28-AUG-19
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
WG3143063-2 LCS 1-Methylnaphthalene			97.2		%		50-140	28-AUG-19
2-Methylnaphthalene			92.4		%		50-140	28-AUG-19
Acenaphthene			96.7		%		50-140	28-AUG-19
Acenaphthylene			96.2		%		50-140	
Anthracene			96.8		%			28-AUG-19
Benzo(a)anthracene			96.2		%		50-140	28-AUG-19
							50-140	28-AUG-19
Benzo(a)pyrene			96.5		%		50-140	28-AUG-19



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

est	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4771436								
WG3143063-2 LCS Benzo(b)fluoranthene			101.6		%		50.440	00 4110 40
Benzo(g,h,i)perylene			93.8		%		50-140	28-AUG-19
			100.6		%		50-140	28-AUG-19
Benzo(k)fluoranthene			100.6		%		50-140	28-AUG-19
Chrysene							50-140	28-AUG-19
Dibenzo(ah)anthracene			92.3		%		50-140	28-AUG-19
Fluoranthene			95.5		%		50-140	28-AUG-19
Fluorene			93.8		%		50-140	28-AUG-19
Indeno(1,2,3-cd)pyrene			89.6		%		50-140	28-AUG-19
Naphthalene			96.2		%		50-140	28-AUG-19
Phenanthrene			100.3		%		50-140	28-AUG-19
Pyrene			95.8		%		50-140	28-AUG-19
WG3143063-1 MB 1-Methylnaphthalene			<0.030		ug/g		0.03	28-AUG-19
2-Methylnaphthalene			<0.030		ug/g		0.03	28-AUG-19
Acenaphthene			<0.050		ug/g		0.05	28-AUG-19
Acenaphthylene			<0.050		ug/g		0.05	28-AUG-19
Anthracene			<0.050		ug/g		0.05	28-AUG-19
Benzo(a)anthracene			<0.050		ug/g		0.05	28-AUG-19
Benzo(a)pyrene			<0.050		ug/g		0.05	28-AUG-19
Benzo(b)fluoranthene			<0.050		ug/g		0.05	28-AUG-19
Benzo(g,h,i)perylene			< 0.050		ug/g		0.05	28-AUG-19
Benzo(k)fluoranthene			<0.050		ug/g		0.05	28-AUG-19
Chrysene			<0.050		ug/g		0.05	28-AUG-19
Dibenzo(ah)anthracene			<0.050		ug/g		0.05	28-AUG-19
Fluoranthene			<0.050		ug/g		0.05	28-AUG-19
Fluorene			<0.050		ug/g		0.05	28-AUG-19
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	28-AUG-19
Naphthalene			<0.013		ug/g		0.013	28-AUG-19
Phenanthrene			<0.046		ug/g		0.046	28-AUG-19
Pyrene			<0.050		ug/g		0.05	28-AUG-19
Surrogate: 2-Fluorobiphe	enyl		98.2		%		50-140	28-AUG-19
Surrogate: p-Terphenyl d	-		85.6		%		50-140	28-AUG-19
WG3143063-4 MS		WG3143063-5						207.00 10
1-Methylnaphthalene		7. 55. 40000-0	97.5		%		50-140	28-AUG-19



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Posult	Qualifier	Unito	RPD	Limit	Analyzed
	IVIATITIX	Reierence	Result	Quantier	Units	אא	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4771436	;							
WG3143063-4 MS 2-Methylnaphthalene		WG3143063-	5 92.6		%		50-140	28-AUG-19
Acenaphthene			97.3		%			28-AUG-19 28-AUG-19
Acenaphthylene			97.3 97.1		%		50-140 50-140	28-AUG-19 28-AUG-19
Anthracene			98.3		%		50-140	28-AUG-19 28-AUG-19
Benzo(a)anthracene			98.6		%		50-140	28-AUG-19
Benzo(a)pyrene			98.0		%		50-140	28-AUG-19
Benzo(b)fluoranthene			101.2		%		50-140	28-AUG-19
Benzo(g,h,i)perylene			95.9		%		50-140	28-AUG-19
Benzo(k)fluoranthene			101.4		%		50-140	28-AUG-19
Chrysene			108.1		%		50-140	28-AUG-19
Dibenzo(ah)anthracene	į		95.7		%		50-140	28-AUG-19
Fluoranthene			96.5		%		50-140	28-AUG-19
Fluorene			94.4		%		50-140	28-AUG-19
Indeno(1,2,3-cd)pyrene)		94.4		%		50-140	28-AUG-19
Naphthalene			96.7		%		50-140	28-AUG-19
Phenanthrene			101.0		%		50-140	28-AUG-19
Pyrene			96.6		%		50-140	28-AUG-19
Batch R4772851								
WG3140421-3 DUP		WG3140421-	5					
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	28-AUG-19
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	28-AUG-19
Acenaphthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Acenaphthylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Anthracene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(a)anthracene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(a)pyrene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(b)fluoranthene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Chrysene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Dibenzo(ah)anthracene)	<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R4772851 WG3140421-3 DUP		WG3140421-5						
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	28-AUG-19
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	28-AUG-19
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
WG3140421-2 LCS 1-Methylnaphthalene			102.5		%		50-140	27-AUG-19
2-Methylnaphthalene			97.1		%		50-140	27-AUG-19
Acenaphthene			104.1		%		50-140	27-AUG-19
Acenaphthylene			103.4		%		50-140	27-AUG-19
Anthracene			100.5		%		50-140	27-AUG-19
Benzo(a)anthracene			102.5		%		50-140	27-AUG-19
Benzo(a)pyrene			96.1		%		50-140	27-AUG-19
Benzo(b)fluoranthene			107.6		%		50-140	27-AUG-19
Benzo(g,h,i)perylene			108.2		%		50-140	27-AUG-19
Benzo(k)fluoranthene			88.3		%		50-140	27-AUG-19
Chrysene			108.9		%		50-140	27-AUG-19
Dibenzo(ah)anthracene			103.4		%		50-140	27-AUG-19
Fluoranthene			96.0		%		50-140	27-AUG-19
Fluorene			101.9		%		50-140	27-AUG-19
Indeno(1,2,3-cd)pyrene			98.9		%		50-140	27-AUG-19
Naphthalene			101.1		%		50-140	27-AUG-19
Phenanthrene			103.4		%		50-140	27-AUG-19
Pyrene			95.1		%		50-140	27-AUG-19
WG3140421-1 MB 1-Methylnaphthalene			<0.030		ug/g		0.03	27-AUG-19
2-Methylnaphthalene			<0.030		ug/g		0.03	27-AUG-19
Acenaphthene			<0.050		ug/g		0.05	27-AUG-19
Acenaphthylene			<0.050		ug/g		0.05	27-AUG-19
Anthracene			<0.050		ug/g		0.05	27-AUG-19
Benzo(a)anthracene			< 0.050		ug/g		0.05	27-AUG-19
Benzo(a)pyrene			< 0.050		ug/g		0.05	27-AUG-19
Benzo(b)fluoranthene			<0.050		ug/g		0.05	27-AUG-19
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	27-AUG-19
Benzo(k)fluoranthene			<0.050		ug/g		0.05	27-AUG-19



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch R477285	1							
WG3140421-1 MB			0.050				0.05	
Chrysene			<0.050		ug/g		0.05	27-AUG-19
Dibenzo(ah)anthracer	ie		<0.050		ug/g		0.05	27-AUG-19
Fluoranthene			<0.050		ug/g		0.05	27-AUG-19
Fluorene			<0.050		ug/g		0.05 0.05	27-AUG-19
Indeno(1,2,3-cd)pyren	le		<0.050		ug/g			27-AUG-19
Naphthalene Phenanthrene			<0.013		ug/g		0.013 0.046	27-AUG-19
			<0.046		ug/g			27-AUG-19
Pyrene	ah anud		<0.050		ug/g		0.05 50-140	27-AUG-19
Surrogate: 2-Fluorobip	-		104.0		%			27-AUG-19
Surrogate: p-Terpheny	yı 0 14		91.9		%		50-140	27-AUG-19
WG3140421-4 MS 1-Methylnaphthalene		WG3140421-5	98.8		%		50-140	28-AUG-19
2-Methylnaphthalene			93.7		%		50-140	28-AUG-19
Acenaphthene			100.8		%		50-140	28-AUG-19
Acenaphthylene			99.5		%		50-140	28-AUG-19
Anthracene			98.4		%		50-140	28-AUG-19
Benzo(a)anthracene			98.6		%		50-140	28-AUG-19
Benzo(a)pyrene			93.9		%		50-140	28-AUG-19
Benzo(b)fluoranthene			104.2		%		50-140	28-AUG-19
Benzo(g,h,i)perylene			92.1		%		50-140	28-AUG-19
Benzo(k)fluoranthene			91.7		%		50-140	28-AUG-19
Chrysene			106.4		%		50-140	28-AUG-19
Dibenzo(ah)anthracer	ie		91.7		%		50-140	28-AUG-19
Fluoranthene			96.5		%		50-140	28-AUG-19
Fluorene			97.5		%		50-140	28-AUG-19
Indeno(1,2,3-cd)pyren	e		94.9		%		50-140	28-AUG-19
Naphthalene			97.8		%		50-140	28-AUG-19
Phenanthrene			100.9		%		50-140	28-AUG-19
Pyrene			96.0		%		50-140	28-AUG-19
PH-WT	Soil							
Batch R476691	0							
WG3140870-1 DUP		L2331127-1						
рН		7.76	7.77	J	pH units	0.01	0.3	23-AUG-19
WG3141310-1 LCS								



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CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-WT		Soil							
Batch R	4766910								
WG3141310-1 pH	LCS			6.96		pH units		6.9-7.1	23-AUG-19
Batch R WG3141036-1 pH	4767069 DUP		L2333456-2 8.03	8.05	J	pH units	0.02	0.3	23-AUG-19
WG3141319-1 pH	LCS			7.00		pH units		6.9-7.1	23-AUG-19
SAR-R511-WT		Soil							
Batch R	4775892								
WG3146514-4 Calcium (Ca)	DUP		WG3146514-3 7.25	7.97		mg/L	9.5	30	29-AUG-19
Sodium (Na)			10.6	11.0		mg/L	3.7	30	29-AUG-19
Magnesium (M	/lg)		<0.50	0.51	RPD-NA	mg/L	N/A	30	29-AUG-19
WG3146514-2	IRM		WT SAR3						
Calcium (Ca)				98.2		%		70-130	29-AUG-19
Sodium (Na)				103.2		%		70-130	29-AUG-19
Magnesium (M	/lg)			100.5		%		70-130	29-AUG-19
WG3146514-5 Calcium (Ca)	LCS			102.7		%		70-130	29-AUG-19
Sodium (Na)				99.6		%		70-130	29-AUG-19
Magnesium (M	/lg)			97.8		%		70-130	29-AUG-19
WG3146514-1 Calcium (Ca)	МВ			<0.50		mg/L		0.5	29-AUG-19
Sodium (Na)				<0.50		mg/L		0.5	29-AUG-19
Magnesium (M	/lg)			<0.50		mg/L		0.5	29-AUG-19
Batch R	4776328					-			
WG3146522-4	DUP		WG3146522-3						
Calcium (Ca)	-		10.1	10.8		mg/L	6.7	30	29-AUG-19
Sodium (Na)			143	143		mg/L	0.0	30	29-AUG-19
Magnesium (M	/lg)		10.7	12.2		mg/L	13	30	29-AUG-19
WG3146522-2 Calcium (Ca)	IRM		WT SAR3	87.4		%		70-130	29-AUG-19
Sodium (Na)				92.3		%		70-130	29-AUG-19
Magnesium (M	/lg)			88.7		%		70-130	29-AUG-19
WG3146522-5	LCS								



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

SAR-RS11-WT	Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
Calcium (Ca)	SAR-R511-WT		Soil							
Socioum (Ca)	Batch F	R4776328								
Sodium (Na)		LCS			114.3		%		70-130	20-ALIG-10
Magnesium (Mg) 109.4 % 70-130 29-AUG-19 WG3146522-1 MB Calcium (Ca) <0.50 mg/L 0.5 29-AUG-19 Sodium (Na) <0.50 mg/L 0.5 29-AUG-19 Magnesium (Mg) <0.50 mg/L 0.5 29-AUG-19 Batch R4776908 WG3146526-3 Calcium (Ca) 3.00 3.15 mg/L 4.9 30 29-AUG-19 Sodium (Na) 88.7 70.1 mg/L 23 30 29-AUG-19 Magnesium (Mg) 8.17 6.32 mg/L 26 30 29-AUG-19 WG3146526-1 IRM WT SAR3 WT SAR3 70-130 29-AUG-19 Sodium (Na) 95.4 % 70-130 29-AUG-19 WG3146526-5 LCS % 70-130 29-AUG-19 WG3146526-1 LCS 100.2 % 70-130 29-AUG-19 WG3146526-1 MB 70-130 29-AUG-19 90-10-19 90-19 90-19	, ,									
WG3146522-1 MB		Mg)								
Sodium (Na) <0.50 mg/L 0.5 29-AUG-19 Magnesium (Mg) <0.50 mg/L 0.5 29-AUG-19 Batch R4776908 R4776908 WG3146526-3 Calcium (Ca) 3.00 3.15 mg/L 4.9 30 29-AUG-19 Sodium (Na) 88.7 70.1 mg/L 23 30 29-AUG-19 Magnesium (Mg) 8.17 6.32 mg/L 26 30 29-AUG-19 WG3146526-2 IRM Calcium (Ca) 8.17 6.32 mg/L 26 30 29-AUG-19 Sodium (Na) 92.5 % 70-130 29-AUG-19 Sodium (Na) 95.4 % 70-130 29-AUG-19 MG3146526-5 LCS CS 70-130 29-AUG-19 Calcium (Ca) 103.7 % 70-130 29-AUG-19 Magnesium (Mg) 90.0 % 70-130 29-AUG-19 Sodium (Na) 40.50 mg/L 0.5 29-AUG-19 WG3146526-1 MB 40.50 mg/L 0.5	-									
Batch R4776908 WG3146526-4 DUP WG3146526-3 Calcium (Ca) 3.00 3.15 mg/L 4.9 30 29-AUG-19 Sodium (Na) 88.7 70.1 mg/L 23 30 29-AUG-19 Magnesium (Mg) 8.17 6.32 mg/L 26 30 29-AUG-19 WG3146526-2 IRM WT SAR3 70-130 29-AUG-19 29-AUG-19 Calcium (Ca) 95.4 % 70-130 29-AUG-19 Magnesium (Mg) 95.5 % 70-130 29-AUG-19 Magnesium (Mg) 93.5 % 70-130 29-AUG-19 WG3146526-5 LCS 70-130 29-AUG-19 Calcium (Ca) 103.7 % 70-130 29-AUG-19 Magnesium (Mg) 99.0 % 70-130 29-AUG-19 WG3146526-1 MB 70-130 29-AUG-19 WG3146526-1 MB 2 0.50 mg/L 0.5 29-AUG-19 WG3146	Calcium (Ca)				<0.50		mg/L		0.5	29-AUG-19
Batch R4776908 WG3146526-4 DUP WG3146526-3 Calcium (Ca) 3.00 3.15 mg/L 23 30 29-AUG-19	Sodium (Na)				<0.50		mg/L		0.5	29-AUG-19
WG3146526-4 DUP	Magnesium (N	Mg)			<0.50		mg/L		0.5	29-AUG-19
Calcium (Ca) 3.00 3.15 mg/L 4.9 30 29-AUG-19 Sodium (Na) 88.7 70.1 mg/L 23 30 29-AUG-19 Magnesium (Mg) 8.17 6.32 mg/L 26 30 29-AUG-19 WG3146526-2 IRM Calcium (Ca) BY 39.5 % 70-130 29-AUG-19 Sodium (Na) 95.4 % 70-130 29-AUG-19 Magnesium (Mg) 93.5 % 70-130 29-AUG-19 WG3146526-5 LCS Calcium (Ca) 103.7 % 70-130 29-AUG-19 Sodium (Na) 100.2 % 70-130 29-AUG-19 Magnesium (Mg) 99.0 % 70-130 29-AUG-19 WG3146528-1 MB WG3146528-1 MB 0.50 mg/L 0.5 29-AUG-19 Sodium (Na) <0.50	Batch F	R4776908								
Sodium (Na) 88.7 70.1 mg/L 23 30 29-AUG-19 Magnesium (Mg) 8.17 6.32 mg/L 26 30 29-AUG-19 WG3146526-2 IRM WT SAR3 WT SAR3 70-130 29-AUG-19 Sodium (Na) 95.4 % 70-130 29-AUG-19 Magnesium (Mg) 93.5 % 70-130 29-AUG-19 WG3146526-5 LCS LCS 70-130 29-AUG-19 Calcium (Ca) 100.2 % 70-130 29-AUG-19 Magnesium (Mg) 99.0 % 70-130 29-AUG-19 M3146526-1 MB 70-130 29-AUG-19 99.0 70-130 29-AUG-19 WG3146526-1 MB 70-130 29-AUG-19 99.0 70-130 29-AUG-19 Sodium (Na) -0.50 mg/L 0.5 29-AUG-19 Sodium (Na) -0.50 mg/L 0.5 29-AUG-19 Batch R4777669 WG3146724-3 70-130 29-AUG-19 Calcium (Ca) 2.40 2.47 mg/L 6.4 <th< td=""><td></td><td>DUP</td><td></td><td></td><td>2.45</td><td></td><td></td><td>4.0</td><td>00</td><td>00 4110 40</td></th<>		DUP			2.45			4.0	00	00 4110 40
Magnesium (Mg) 8.17 6.32 mg/L 26 30 29-AUG-19 WG3146526-2 IRM Calcium (Ca) WT SAR3 92.5 % 70-130 29-AUG-19 Sodium (Na) 95.4 % 70-130 29-AUG-19 Magnesium (Mg) 93.5 % 70-130 29-AUG-19 WG3146526-5 LCS Calcium (Ca) 103.7 % 70-130 29-AUG-19 Sodium (Na) 100.2 % 70-130 29-AUG-19 Magnesium (Mg) 99.0 % 70-130 29-AUG-19 WG3146526-1 MB Calcium (Ca) 0.5 29-AUG-19 99-AUG-19 Sodium (Na) -0.50 mg/L 0.5 29-AUG-19 Magnesium (Mg) -0.50 mg/L 0.5 29-AUG-19 Batch R4777669 WG3146724-3 Mg/L 2.9 30 29-AUG-19 WG3146724-4 DUP WG3146724-3 Calcium (Ca) 2.40 2.47 mg/L 2.9 30 29-AUG-19 Sodium (Na) 42.6 45.4 mg/L 6.4 30 29-AUG-19 WG3146724-2 IRM Calcium (Ca) 33.7 %<										
W3146526-2 IRM Calcium (Ca) WT SAR3 Calcium (Ca) 92.5 % 70-130 29-AUG-19 Sodium (Na) 95.4 % 70-130 29-AUG-19 Magnesium (Mg) 93.5 % 70-130 29-AUG-19 WG3146526-5 LCS Calcium (Ca) 103.7 % 70-130 29-AUG-19 Sodium (Na) 100.2 % 70-130 29-AUG-19 Magnesium (Mg) 90.0 % 70-130 29-AUG-19 WG3146526-1 MB VO.50 mg/L 0.5 29-AUG-19 WG3146526-1 MB Calcium (Ca) <0.50	` ,	\(\frac{1}{2}\)					-			
Calcium (Ca) 92.5 % 70-130 29-AUG-19 Sodium (Na) 95.4 % 70-130 29-AUG-19 Magnesium (Mg) 93.5 % 70-130 29-AUG-19 WG3146526-5 LCS Calcium (Ca) 103.7 % 70-130 29-AUG-19 Sodium (Na) 100.2 % 70-130 29-AUG-19 Magnesium (Mg) 99.0 % 70-130 29-AUG-19 WG3146526-1 MB 0.5 29-AUG-19 Calcium (Ca) <0.50					0.02		mg/L	∠0	30	29-AUG-19
Magnesium (Mg) 93.5 % 70-130 29-AUG-19 WG3146526-5 LCS LCS Calcium (Ca) 103.7 % 70-130 29-AUG-19 Sodium (Na) 100.2 % 70-130 29-AUG-19 Magnesium (Mg) 99.0 % 70-130 29-AUG-19 WG3146526-1 MB MB Calcium (Ca) <0.50 mg/L 0.5 29-AUG-19 Sodium (Na) <0.50 mg/L 0.5 29-AUG-19 Magnesium (Mg) <0.50 mg/L 0.5 29-AUG-19 Batch R4777669 WG3146724-4 DUP WG3146724-3 MG9/L 2.9 30 29-AUG-19 Sodium (Na) 42.6 45.4 mg/L 6.4 30 29-AUG-19 Magnesium (Mg) 1.20 1.13 mg/L 6.0 30 29-AUG-19 WG3146724-2 IRM WT SAR3 70-130 29-AUG-19 Sodium (Na) 107.1 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 </td <td></td> <td>I IRW</td> <td></td> <td>WI SAR3</td> <td>92.5</td> <td></td> <td>%</td> <td></td> <td>70-130</td> <td>29-AUG-19</td>		I IRW		WI SAR3	92.5		%		70-130	29-AUG-19
WG3146526-5 LCS Calcium (Ca) 103.7 % 70-130 29-AUG-19 Sodium (Na) 100.2 % 70-130 29-AUG-19 Magnesium (Mg) 99.0 % 70-130 29-AUG-19 WG3146526-1 MB MB US 29-AUG-19 Calcium (Ca) <0.50	Sodium (Na)				95.4		%		70-130	29-AUG-19
Calcium (Ca) 103.7 % 70-130 29-AUG-19 Sodium (Na) 100.2 % 70-130 29-AUG-19 Magnesium (Mg) 99.0 % 70-130 29-AUG-19 WG3146526-1 MB Calcium (Ca) < 0.50	Magnesium (N	Mg)			93.5		%		70-130	29-AUG-19
Sodium (Na) 100.2 % 70-130 29-AUG-19 Magnesium (Mg) 99.0 % 70-130 29-AUG-19 WG3146526-1 MB Calcium (Ca) <0.50		LCS								
Magnesium (Mg) 99.0 % 70-130 29-AUG-19 WG3146526-1 MB Calcium (Ca) < 0.50 mg/L 0.5 29-AUG-19 Sodium (Na) < 0.50 mg/L 0.5 29-AUG-19 Magnesium (Mg) < 0.50 mg/L 0.5 29-AUG-19 Batch R4777669 WG3146724-4 DUP WG3146724-3 Variable of the company of th									70-130	29-AUG-19
WG3146526-1 MB Calcium (Ca) <0.50	` ,								70-130	29-AUG-19
Calcium (Ca) <0.50	-				99.0		%		70-130	29-AUG-19
Sodium (Na) <0.50 mg/L 0.5 29-AUG-19 Magnesium (Mg) <0.50 mg/L 0.5 29-AUG-19 Batch R4777669 WG3146724-4 DUP (Calcium (Ca)) WG3146724-3 WG3146724-3 USANGA USANGA 29-AUG-19 Sodium (Na) 42.6 45.4 mg/L 6.4 30 29-AUG-19 Magnesium (Mg) 1.20 1.13 mg/L 6.0 30 29-AUG-19 WG3146724-2 IRM (Ca) WT SAR3 WT SAR3 70-130 29-AUG-19 Sodium (Na) 107.1 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS		МВ			<0.50		ma/L		0.5	29-AHG-19
Magnesium (Mg) <0.50 mg/L 0.5 29-AUG-19 Batch R4777669 WG3146724-4 DUP WG3146724-3 WG3146724-3 WG3146724-3 WG3146724-3 WG3146724-3 Sodium (Na) 42.6 45.4 mg/L 6.4 30 29-AUG-19 Magnesium (Mg) 1.20 1.13 mg/L 6.0 30 29-AUG-19 WG3146724-2 IRM Calcium (Ca) WT SAR3 WT SAR3 70-130 29-AUG-19 Sodium (Na) 107.1 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS LCS										
Batch R4777669 WG3146724-4 DUP WG3146724-3 Calcium (Ca) 2.40 2.47 mg/L 2.9 30 29-AUG-19 Sodium (Na) 42.6 45.4 mg/L 6.4 30 29-AUG-19 Magnesium (Mg) 1.20 1.13 mg/L 6.0 30 29-AUG-19 WG3146724-2 IRM WT SAR3 Calcium (Ca) 93.7 % 70-130 29-AUG-19 Sodium (Na) 107.1 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS		Mg)					-			
WG3146724-4 DUP WG3146724-3 Calcium (Ca) 2.40 2.47 mg/L 2.9 30 29-AUG-19 Sodium (Na) 42.6 45.4 mg/L 6.4 30 29-AUG-19 Magnesium (Mg) 1.20 1.13 mg/L 6.0 30 29-AUG-19 WG3146724-2 IRM WT SAR3 WT SAR3 70-130 29-AUG-19 Sodium (Na) 93.7 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS LCS							•			
Sodium (Na) 42.6 45.4 mg/L 6.4 30 29-AUG-19 Magnesium (Mg) 1.20 1.13 mg/L 6.0 30 29-AUG-19 WG3146724-2 IRM Calcium (Ca) WT SAR3 93.7 % 70-130 29-AUG-19 Sodium (Na) 107.1 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS LCS				WG3146724-3						
Magnesium (Mg) 1.20 1.13 mg/L 6.0 30 29-AUG-19 WG3146724-2 IRM Calcium (Ca) WT SAR3 93.7 % 70-130 29-AUG-19 Sodium (Na) 107.1 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS	Calcium (Ca)			2.40	2.47		mg/L	2.9	30	29-AUG-19
WG3146724-2 IRM WT SAR3 Calcium (Ca) 93.7 % 70-130 29-AUG-19 Sodium (Na) 107.1 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS	Sodium (Na)			42.6	45.4		mg/L	6.4	30	29-AUG-19
Calcium (Ca) 93.7 % 70-130 29-AUG-19 Sodium (Na) 107.1 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS	Magnesium (N	Mg)		1.20	1.13		mg/L	6.0	30	29-AUG-19
Sodium (Na) 107.1 % 70-130 29-AUG-19 Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS		! IRM		WT SAR3	93.7		%		70-130	29-AUG-19
Magnesium (Mg) 98.9 % 70-130 29-AUG-19 WG3146724-5 LCS	Sodium (Na)				107.1		%			
WG3146724-5 LCS	Magnesium (N	Mg)			98.9		%		70-130	
Calcium (Ca) 101.0 % 70-130 29-AUG-19		LCS								
	Calcium (Ca)				101.0		%		70-130	29-AUG-19



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test		Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT		Soil							
Batch R4	777669								
WG3146724-5 Sodium (Na)	LCS			97.4		%		70-130	29-AUG-19
Magnesium (Mg	J)			96.6		%		70-130	29-AUG-19
WG3146724-1 Calcium (Ca)	MB			<0.50		mg/L		0.5	29-AUG-19
Sodium (Na)				<0.50		mg/L		0.5	29-AUG-19
Magnesium (Mg	j)			<0.50		mg/L		0.5	29-AUG-19
Batch R4	784493								
WG3153567-4 Calcium (Ca)	DUP		WG3153567-3 34.9	37.9		mg/L	8.2	30	06-SEP-19
Sodium (Na)			1.06	1.14		mg/L	7.3	30	06-SEP-19
Magnesium (Mg	j)		3.06	3.27		mg/L	6.6	30	06-SEP-19
WG3153567-2	 IRM		WT SAR3			-			- -
Calcium (Ca)				83.1		%		70-130	06-SEP-19
Sodium (Na)				95.4		%		70-130	06-SEP-19
Magnesium (Mo	J)			89.8		%		70-130	06-SEP-19
WG3153567-5 Calcium (Ca)	LCS			102.0		%		70-130	06-SEP-19
Sodium (Na)				100.0		%		70-130	06-SEP-19
Magnesium (Mg	j)			100.6		%		70-130	06-SEP-19
WG3153567-1 Calcium (Ca)	MB			<0.50		mg/L		0.5	06-SEP-19
Sodium (Na)				<0.50		mg/L		0.5	06-SEP-19
Magnesium (Mg	j)			<0.50		mg/L		0.5	06-SEP-19
VOC-511-HS-WT		Soil							
	774229								
WG3143298-4 1,1,1,2-Tetrachl	DUP	ie	WG3143298-3 <0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,1,2,2-Tetrachl			<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,1,1-Trichloroe			<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,1,2-Trichloroe			<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,1-Dichloroetha			<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,1-Dichloroethy			<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,2-Dibromoeth			<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,2-Dichloroben			<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
.,					NI D NA	· J [.] J	. 4/ 1	.0	207.00 10



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4774229								
WG3143298-4 DUP		WG3143298-			,			
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	28-AUG-19
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	28-AUG-19
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Carbon tetrachloride		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Chlorobenzene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
cis-1,2-Dichloroethylene		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	28-AUG-19
Dibromochloromethane		<0.050	< 0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Dichlorodifluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	28-AUG-19
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
m+p-Xylenes		<0.030	< 0.030	RPD-NA	ug/g	N/A	40	28-AUG-19
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	28-AUG-19
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	28-AUG-19
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	28-AUG-19
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	28-AUG-19
trans-1,2-Dichloroethyler	ne	<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
trans-1,3-Dichloroproper	ne	<0.030	<0.030	RPD-NA	ug/g	N/A	40	28-AUG-19
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	28-AUG-19
Trichlorofluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	28-AUG-19
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	28-AUG-19
WG3143298-2 LCS								-

WG3143298-2 LCS



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Name	Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
West A C C 1,1,1,2-Tetrachloroethane 113,3 % 60-130 28-AUG-19 1,1,1,2-Tetrachloroethane 111,0 % 60-130 28-AUG-19 1,1,1-Trichloroethane 113,8 % 60-130 28-AUG-19 1,1,2-Trichloroethane 112,9 % 60-130 28-AUG-19 1,1,1-Dichloroethane 112,4 % 60-130 28-AUG-19 1,1-Dichloroethylene 105,1 % 60-130 28-AUG-19 1,1-Dichloroethylene 105,1 % 60-130 28-AUG-19 1,2-Dichloroethylene 112,4 % 70-130 28-AUG-19 1,2-Dichloroethane 112,1 % 70-130 28-AUG-19 1,2-Dichloroethane 115,9 % 60-130 28-AUG-19 1,2-Dichloroethane 115,9 % 60-130 28-AUG-19 1,2-Dichloroethane 117,9 % 70-130 28-AUG-19 1,3-Dichlorobenzene 107,6 % 70-130 28-AUG-19 1,3-Dichlorobenzene 107,6 % 70-130 28-AUG-19 1,4-Dichlorobenzene 108,4 % 70-130 28-AUG-19 1,4-Dichlorobenzene 112,7 % 60-140 28-AUG-19 Benzene 116,7 % 70-130 28-AUG-19 Benzene 116,7 % 70-130 28-AUG-19 Bromodichloromethane 120,5 % 60-140 28-AUG-19 Bromodichloromethane 17,1 % 70-130 28-AUG-19 Bromodichloromethane 17,2 % 70-130 28-AUG-19 Chlorobenzene 112,8 % 70-130 28-AUG-19 Chlorobenzene 112,8 % 70-130 28-AUG-19 Chlorobenzene 112,8 % 70-130 28-AUG-19 Chlorobenzene 112,8 % 70-130 28-AUG-19 Chlorobenzene 10,7,6 % 70-130 28-AUG-19 Dichloroethylene 10,7,6 % 70-130 28-AUG-19 Methylene Chloride 113,7	VOC-511-HS-WT	Soil							
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n-Hexane 98.7 % 70-130 28-AUG-19 Methylene Chloride 113.7 % 70-130 28-AUG-19 MTBE 112.5 % 70-130 28-AUG-19 m+p-Xylenes 106.7 % 70-130 28-AUG-19 Methyl Ethyl Ketone 102.1 % 60-140 28-AUG-19 Methyl Isobutyl Ketone 107.0 % 60-140 28-AUG-19	Dichlorodifluorometh	ane		84.2		%		50-140	28-AUG-19
Methylene Chloride 113.7 % 70-130 28-AUG-19 MTBE 112.5 % 70-130 28-AUG-19 m+p-Xylenes 106.7 % 70-130 28-AUG-19 Methyl Ethyl Ketone 102.1 % 60-140 28-AUG-19 Methyl Isobutyl Ketone 107.0 % 60-140 28-AUG-19	Ethylbenzene			105.7		%		70-130	28-AUG-19
MTBE 112.5 % 70-130 28-AUG-19 m+p-Xylenes 106.7 % 70-130 28-AUG-19 Methyl Ethyl Ketone 102.1 % 60-140 28-AUG-19 Methyl Isobutyl Ketone 107.0 % 60-140 28-AUG-19	n-Hexane			98.7		%		70-130	28-AUG-19
m+p-Xylenes 106.7 % 70-130 28-AUG-19 Methyl Ethyl Ketone 102.1 % 60-140 28-AUG-19 Methyl Isobutyl Ketone 107.0 % 60-140 28-AUG-19	Methylene Chloride			113.7		%		70-130	28-AUG-19
Methyl Ethyl Ketone 102.1 % 60-140 28-AUG-19 Methyl Isobutyl Ketone 107.0 % 60-140 28-AUG-19	MTBE			112.5		%		70-130	28-AUG-19
Methyl Isobutyl Ketone 107.0 % 60-140 28-AUG-19	m+p-Xylenes			106.7		%		70-130	28-AUG-19
	Methyl Ethyl Ketone			102.1		%		60-140	28-AUG-19
o-Xylene 107.1 % 70-130 28-AUG-19	Methyl Isobutyl Ketor	ne		107.0		%		60-140	28-AUG-19
	o-Xylene			107.1		%		70-130	28-AUG-19
Styrene 107.8 % 70-130 28-AUG-19	Styrene			107.8		%		70-130	28-AUG-19



Workorder: L2333129 Report Date: 11-NOV-19 Page 18 of 22

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R477422	9							
WG3143298-2 LCS Tetrachloroethylene			107.5		%		60 120	20 410 40
Toluene			110.3		%		60-130 70-130	28-AUG-19 28-AUG-19
trans-1,2-Dichloroethy	lene		105.3		%		60-130	28-AUG-19 28-AUG-19
trans-1,3-Dichloroprop			103.5		%			
Trichloroethylene	CIIC		114.3		%		70-130 60-130	28-AUG-19
Trichlorofluoromethan	۵		114.3		%		50-130	28-AUG-19
Vinyl chloride	o		114.0		%			28-AUG-19
WG3143298-1 MB			114.0		70		60-140	28-AUG-19
1,1,1,2-Tetrachloroeth	ane		<0.050		ug/g		0.05	28-AUG-19
1,1,2,2-Tetrachloroeth	ane		<0.050		ug/g		0.05	28-AUG-19
1,1,1-Trichloroethane			<0.050		ug/g		0.05	28-AUG-19
1,1,2-Trichloroethane			<0.050		ug/g		0.05	28-AUG-19
1,1-Dichloroethane			< 0.050		ug/g		0.05	28-AUG-19
1,1-Dichloroethylene			< 0.050		ug/g		0.05	28-AUG-19
1,2-Dibromoethane			< 0.050		ug/g		0.05	28-AUG-19
1,2-Dichlorobenzene			< 0.050		ug/g		0.05	28-AUG-19
1,2-Dichloroethane			< 0.050		ug/g		0.05	28-AUG-19
1,2-Dichloropropane			< 0.050		ug/g		0.05	28-AUG-19
1,3-Dichlorobenzene			< 0.050		ug/g		0.05	28-AUG-19
1,4-Dichlorobenzene			< 0.050		ug/g		0.05	28-AUG-19
Acetone			<0.50		ug/g		0.5	28-AUG-19
Benzene			<0.0068		ug/g		0.0068	28-AUG-19
Bromodichloromethan	е		< 0.050		ug/g		0.05	28-AUG-19
Bromoform			< 0.050		ug/g		0.05	28-AUG-19
Bromomethane			< 0.050		ug/g		0.05	28-AUG-19
Carbon tetrachloride			< 0.050		ug/g		0.05	28-AUG-19
Chlorobenzene			< 0.050		ug/g		0.05	28-AUG-19
Chloroform			< 0.050		ug/g		0.05	28-AUG-19
cis-1,2-Dichloroethyler	ne		<0.050		ug/g		0.05	28-AUG-19
cis-1,3-Dichloroproper	ne		< 0.030		ug/g		0.03	28-AUG-19
Dibromochloromethan	е		< 0.050		ug/g		0.05	28-AUG-19
Dichlorodifluorometha	ne		< 0.050		ug/g		0.05	28-AUG-19
Ethylbenzene			<0.018		ug/g		0.018	28-AUG-19
n-Hexane			< 0.050		ug/g		0.05	28-AUG-19



Workorder: L2333129 Report Date: 11-NOV-19 Page 19 of 22

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4774229)							
WG3143298-1 MB			.0.050				0.05	
Methylene Chloride MTBE			<0.050 <0.050		ug/g		0.05 0.05	28-AUG-19
					ug/g			28-AUG-19
m+p-Xylenes			<0.030		ug/g		0.03	28-AUG-19
Methyl Isabutul Ketone			<0.50		ug/g		0.5	28-AUG-19
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	28-AUG-19
o-Xylene			<0.020		ug/g		0.02	28-AUG-19
Styrene			<0.050		ug/g		0.05	28-AUG-19
Tetrachloroethylene			<0.050		ug/g		0.05	28-AUG-19
Toluene			<0.080		ug/g		0.08	28-AUG-19
trans-1,2-Dichloroethyl			<0.050		ug/g		0.05	28-AUG-19
trans-1,3-Dichloroprop	ene		<0.030		ug/g		0.03	28-AUG-19
Trichloroethylene			<0.010		ug/g		0.01	28-AUG-19
Trichlorofluoromethane	9		<0.050		ug/g		0.05	28-AUG-19
Vinyl chloride			<0.020		ug/g		0.02	28-AUG-19
Surrogate: 1,4-Difluoro			106.3		%		50-140	28-AUG-19
Surrogate: 4-Bromoflu	orobenzene		89.2		%		50-140	28-AUG-19
WG3143298-5 MS 1,1,1,2-Tetrachloroetha	ane	L2333129-1	108.2		%		50-140	28-AUG-19
1,1,2,2-Tetrachloroeth			111.3		%		50-140	28-AUG-19
1,1,1-Trichloroethane	a110		109.3		%		50-140	28-AUG-19
1,1,2-Trichloroethane			109.9		%		50-140	28-AUG-19
1,1-Dichloroethane			106.8		%		50-140	28-AUG-19
1,1-Dichloroethylene			99.4		%		50-140	28-AUG-19
1,2-Dibromoethane			107.3		%		50-140	28-AUG-19
1,2-Dichlorobenzene			104.1		%		50-140	28-AUG-19
1,2-Dichloroethane			110.1		%		50-140	28-AUG-19
1,2-Dichloropropane			111.0		%		50-140	28-AUG-19
1,3-Dichlorobenzene			96.1		%		50-140	28-AUG-19
1,4-Dichlorobenzene			95.6		%		50-140	28-AUG-19
Acetone			110.5		%		50-140	28-AUG-19
Benzene			109.7		%		50-140	28-AUG-19
Bromodichloromethan	Э		113.9		%		50-140	28-AUG-19
Bromoform			113.4		%		50-140	28-AUG-19
Bromomethane			85.8		%		50-140	28-AUG-19
2.0			55.5		, •		30-140	20 700-13



Workorder: L2333129 Report Date: 11-NOV-19 Page 20 of 22

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Test .	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch R4774229								
WG3143298-5 MS		L2333129-1			0.4			
Carbon tetrachloride			111.5		%		50-140	28-AUG-19
Chlorobenzene			104.7		%		50-140	28-AUG-19
Chloroform			110.7		%		50-140	28-AUG-19
cis-1,2-Dichloroethylene	Э		101.9		%		50-140	28-AUG-19
cis-1,3-Dichloropropene	e		83.1		%		50-140	28-AUG-19
Dibromochloromethane			109.0		%		50-140	28-AUG-19
Dichlorodifluoromethan	е		87.8		%		50-140	28-AUG-19
Ethylbenzene			98.2		%		50-140	28-AUG-19
n-Hexane			94.6		%		50-140	28-AUG-19
Methylene Chloride			106.6		%		50-140	28-AUG-19
MTBE			103.5		%		50-140	28-AUG-19
m+p-Xylenes			98.0		%		50-140	28-AUG-19
Methyl Ethyl Ketone			98.7		%		50-140	28-AUG-19
Methyl Isobutyl Ketone			104.6		%		50-140	28-AUG-19
o-Xylene			99.8		%		50-140	28-AUG-19
Styrene			96.5		%		50-140	28-AUG-19
Tetrachloroethylene			98.9		%		50-140	28-AUG-19
Toluene			103.4		%		50-140	28-AUG-19
trans-1,2-Dichloroethyle	ene		95.0		%		50-140	28-AUG-19
trans-1,3-Dichloroprope	ene		76.2		%		50-140	28-AUG-19
Trichloroethylene			103.8		%		50-140	28-AUG-19
Trichlorofluoromethane			107.3		%		50-140	28-AUG-19
Vinyl chloride			109.4		%		50-140	28-AUG-19

Report Date: 11-NOV-19 Workorder: L2333129

CH2M HILL CANADA LIMITED Client: Page 21 of 22

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

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

Sample Parameter Qualifier Definitions:

LCSD Laboratory Control Sample Duplicate

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
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.

Workorder: L2333129 Report Date: 11-NOV-19

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Hold Time Exceedances:

	Sample						
ALS Product Description	ID	Sampling Date	Date Processed	Rec. HT	Actual HT	Units	Qualifier
Physical Tests							
Moisture content							
	16	20-AUG-19 15:25	09-SEP-19 13:59	14	20	days	EHT

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 L2333129 were received on 21-AUG-19 14:30.

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.

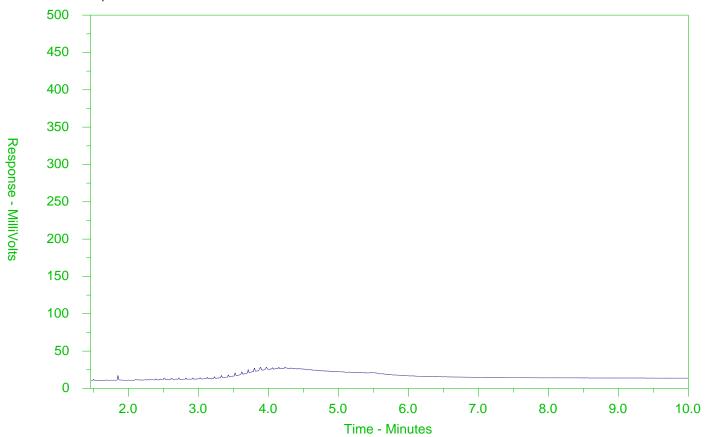
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide 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.

Page 22 of 22



ALS Sample ID: L2333129-1 Client Sample ID: BH206-7.5-9.5



← -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/Lub			or Oils/Lube Oils/Grease-		
←	← Diesel/Jet Fuels →				

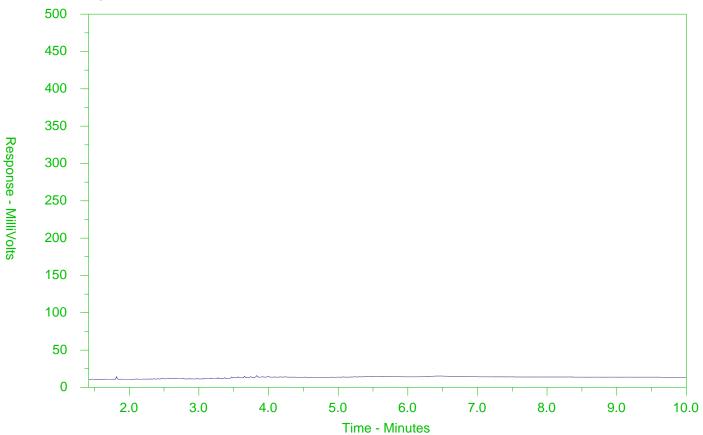
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2333129-3 Client Sample ID: BH206-12.5-14.5



← -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/Lub			or Oils/Lube Oils/Grease-		
←	← Diesel/Jet Fuels →				

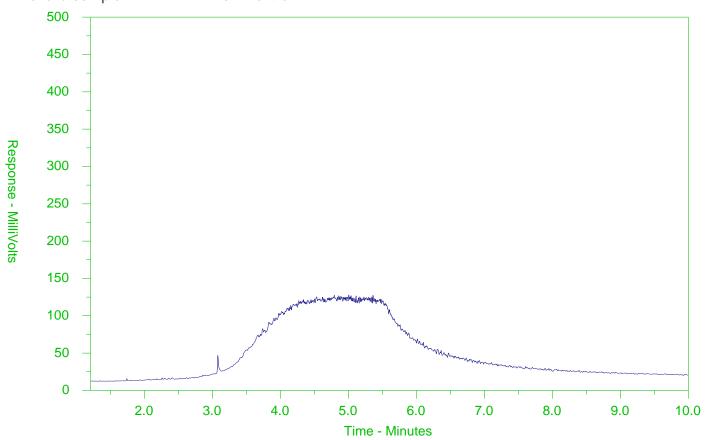
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2333129-6 Client Sample ID: MW107-2.5-4.5



← -F2-	→ ←	—F3——◆4—F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	e →	← M	otor Oils/Lube Oils/Grease—	-	
←	——Diesel/Jet Fuels→				

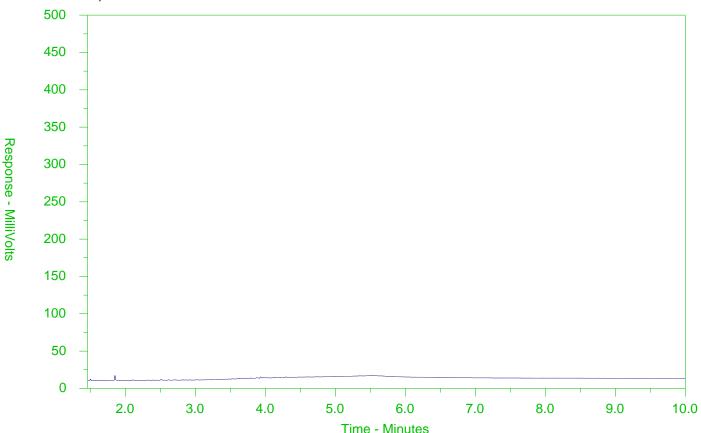
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2333129-8 Client Sample ID: MW107-7.5-9.5



← -F2-	→ ←	—F3—→ ← F4—	>		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067⁰F		
Gasolin	e →	← Mot	or Oils/Lube Oils/Grease		
←	← Diesel/Jet Fuels →				

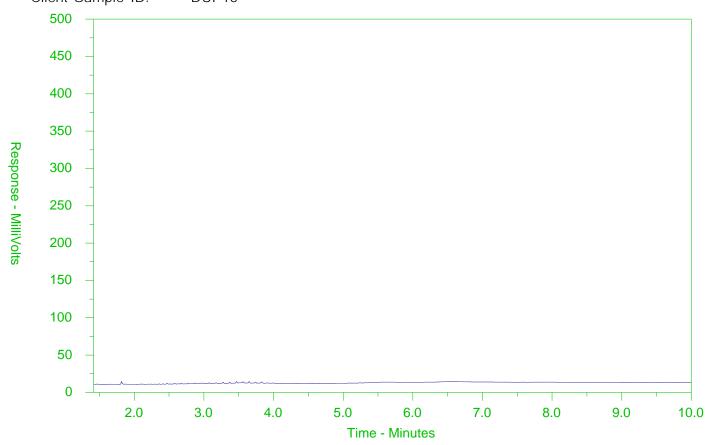
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2333129-11 Client Sample ID: DUP15



← -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 →				

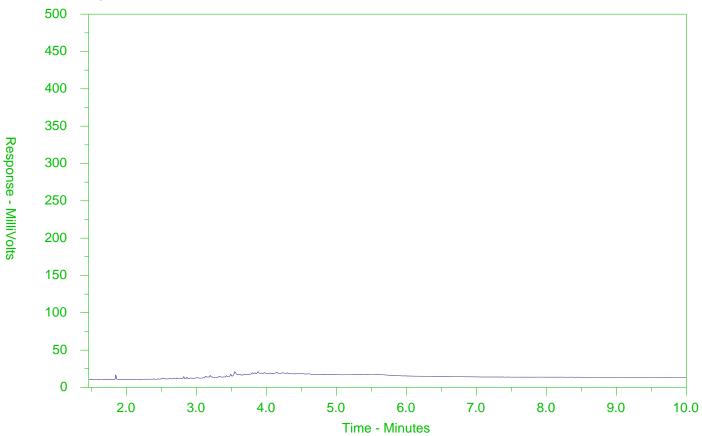
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2333129-12 Client Sample ID: MW106-7.5-8.5



← -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 →				

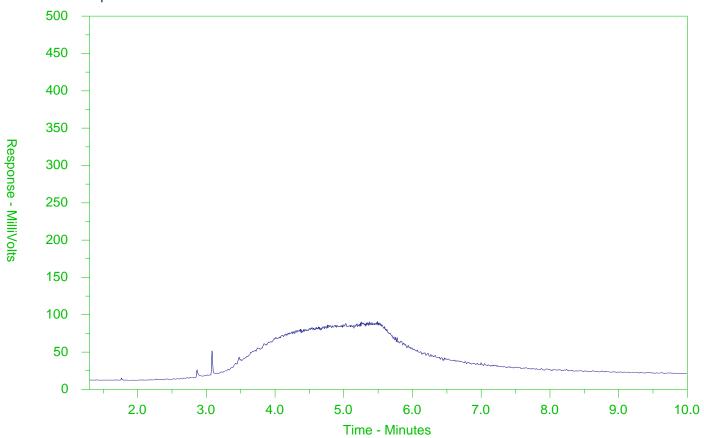
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2333129-15 Client Sample ID: BH203-0.5-2



← -F2-	→←	_F3 → F4-	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasolin	ie →	← Mo	tor Oils/Lube Oils/Grease	-	
←	← Diesel/Jet Fuels →				

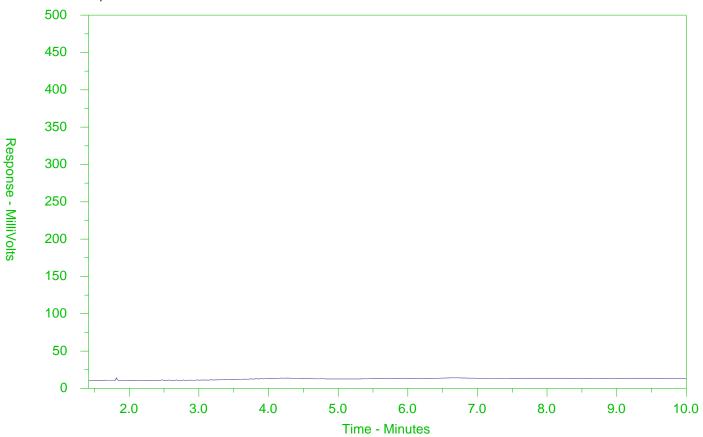
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2333129-17 Client Sample ID: BH203-7.5-9.5



← -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/Lub			or Oils/Lube Oils/Grease-		
←	← Diesel/Jet Fuels →				

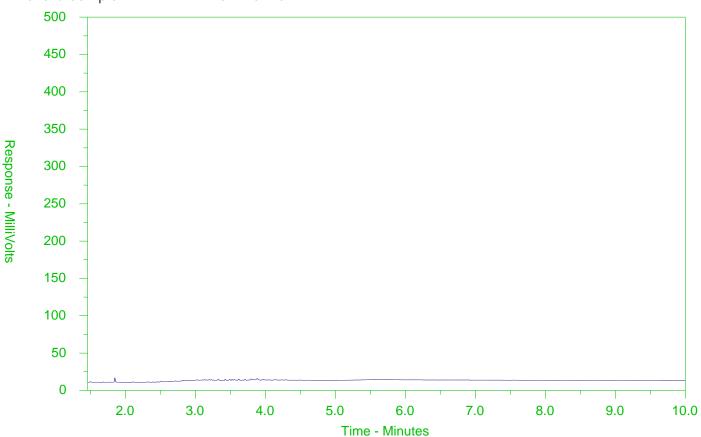
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2333129-21 Client Sample ID: MW101-7.5-9.5



← -F2-	→ ←	—F3—→ ← —F4—	→		
nC10	nC16	nC34	nC50		
174°C	287°C	481°C	575°C		
346°F	549°F	898°F	1067°F		
Gasoline →					
←	← 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.



Chain of Custody (COC) / Analytical Request Form

L2333129-COFC

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**Canada Toll Free: 1 800 668 9878** 

|                                                       | www.alsolobal.com                                                      | · · · · · · · · · · · · · · · · · · ·       |                                                                                           |                                                     |                 |              |                                           | Colore Control February Add to confirm at ERP TATS (surrhames May 2001V) |                                                                                                                                                                                |          |        |                   |           |                                                  |          |              |                             |        |                |          |              |            |           |  |  |
|-------------------------------------------------------|------------------------------------------------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------|--------------|-------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------|-------------------|-----------|--------------------------------------------------|----------|--------------|-----------------------------|--------|----------------|----------|--------------|------------|-----------|--|--|
| Report To                                             | port To Contact and company name below will appear on the Shall report |                                             |                                                                                           | Report Format / Distribution                        |                 |              |                                           |                                                                          | Select Service Leval Below - Contact your AM to confirm all E&P TATs (surctiarges may apply)  Regular (R) Standard TAT if received by 3 pm - business days - no successes norw |          |        |                   |           |                                                  |          |              |                             |        |                |          |              |            |           |  |  |
| Company.                                              | . CH2M Hill/Jacobs                                                     |                                             |                                                                                           | Select Report Format: 🙀 PDF 🔊 EXCEL 👺 F30 (CHGITAL) |                 |              |                                           |                                                                          |                                                                                                                                                                                | _        |        | 'dard             |           |                                                  |          |              |                             |        | curcharg       | es apply |              |            | 귀         |  |  |
| Contact                                               | ontact Andrew Vermeersch                                               |                                             |                                                                                           | Quality Control (QC) Report with Report 🖽 YES 🔲 NO  |                 |              |                                           |                                                                          | y  P4-                                                                                                                                                                         |          |        |                   | <u>⊊</u>  |                                                  |          | -            | [E1 - 1                     | _      |                |          |              |            | 나         |  |  |
| Phone: 519 579 3500 x 73247                           |                                                                        |                                             | Compare Results to Omeria on Report - provide details below if box chedited               |                                                     |                 |              |                                           | 3 day [P3-25%]                                                           |                                                                                                                                                                                |          |        |                   |           | Same Day, Weekend or Statutory holiday [E2 -200% |          |              |                             |        |                |          |              |            |           |  |  |
| Company address below will appear on the final report |                                                                        |                                             | Select Distribution 🌠 FMAIL 🗋 MAIL 🗀 FAX                                                  |                                                     |                 |              |                                           | 2 day [P2-50%]  Date and Time Required for all E4                        |                                                                                                                                                                                |          |        |                   |           | (Laboratory opening fees may apply) ]            |          |              |                             |        |                |          |              |            |           |  |  |
| Street: 72 Victoria Street South, Suite 300           |                                                                        |                                             | Email 1 or Fax Andrew Vermeersch@jacobs.com                                               |                                                     |                 |              |                                           |                                                                          |                                                                                                                                                                                |          |        | _                 |           |                                                  |          |              |                             |        |                |          |              |            | —         |  |  |
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| Postal Code:                                          |                                                                        |                                             |                                                                                           | Email 3 Katherine in Wolsh, P : wisherson           |                 |              |                                           |                                                                          |                                                                                                                                                                                |          |        |                   | _         |                                                  | lysis    |              |                             |        |                |          | <del></del>  | Τ =        | ᅱ         |  |  |
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| ALS Account # / Quote #. Q72980                       |                                                                        |                                             | AFE/Cast Center. PO#                                                                      |                                                     |                 |              |                                           |                                                                          |                                                                                                                                                                                |          |        | â                 |           |                                                  |          |              | ŀ                           |        |                | 1        | 1            | 1 7        | ا ہر ا    |  |  |
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|                                                       |                                                                        |                                             |                                                                                           |                                                     | £               | Andrew V.    | Ţ                                         | 1                                                                        |                                                                                                                                                                                |          |        | Ę                 |           |                                                  |          | _            |                             |        | ĺ              |          | 3            | Ĩ          | 9         |  |  |
| ALS Lab Work Order # (lab use only):                  |                                                                        |                                             | ALS Contact:                                                                              | Mathy                                               | Sampler:        | Andrew v.    | Ĕ                                         | 1                                                                        |                                                                                                                                                                                | İ        |        | BIG               |           |                                                  |          | ΣĪ           | - 1                         | - [    |                | İ        | 82           | :          | Ě         |  |  |
| ALS Sample #                                          | Sample Identification                                                  | and/or Coordinates                          |                                                                                           | Date                                                | Time            | Sample Type  | 1 8                                       | ا ا                                                                      | ا لا ا                                                                                                                                                                         | T.       |        | SEX.              | n l       | o                                                | _        | Ž<br>Ž       | - 1                         | - 1    |                | -        | SAMPLES      | Sampl      | NUMBER    |  |  |
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|                                                       | BH206- 7.5-9.5                                                         |                                             |                                                                                           | 19-Aug 19                                           | 6.30            | ] Se;1       | X                                         | X.                                                                       | X                                                                                                                                                                              | ¥        | ×      |                   |           |                                                  |          |              |                             |        |                |          | 1            |            | 4         |  |  |
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| 3                                                     | BY1206- 12 5-14 5                                                      |                                             |                                                                                           | - 1                                                 | 8 50            | 7.4          | ×                                         | 1X                                                                       | X                                                                                                                                                                              | X        | X      |                   |           |                                                  |          |              |                             |        | L              |          | Т.           |            | 4         |  |  |
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| <del></del>                                           | MW,07-15-16-7                                                          |                                             |                                                                                           | 13                                                  | 12:10           | 1,,          | ×                                         | <u>-                                   </u>                              | ×                                                                                                                                                                              | х        | x      | _                 | -         |                                                  |          | X            |                             |        |                |          | 5            | <b>†</b>   |           |  |  |
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| 12                                                    | MW:06 - 7.4-8.5                                                        | •                                           |                                                                                           | 20-Aug 11                                           | 8.35            | 11           | X                                         | _                                                                        | -                                                                                                                                                                              | X        | 1      |                   |           |                                                  |          |              |                             |        |                | 1        | $\top$       | Τ          | 14        |  |  |
| 12                                                    | 1 100,06 10 114 - 011                                                  |                                             | ik. Cris-da ta                                                                            | <del></del>                                         | <u> </u>        |              | ╁                                         | 17.                                                                      | ــــــــــــــــــــــــــــــــــــــ                                                                                                                                         | ,-       | SAI    | IPLÉ              | CON       | OITK                                             | N AS     | RECI         | EIVED                       | (lab v | se on          | ly)      |              |            |           |  |  |
| Drinking                                              | Water (DW) Samples <sup>1</sup> (client use)                           |                                             | fy Criteria to add on report by clicking on the drop-down Nat bolow (ejectronic COC only) |                                                     |                 |              | еп                                        |                                                                          |                                                                                                                                                                                |          |        | SIF C             | )bser     | vation                                           | 3        | Yes          |                             |        | Ŋ              |          |              |            |           |  |  |
| Are samples take                                      | en from a Regulated DW System?                                         | 1 11 / 1                                    |                                                                                           |                                                     |                 |              | Packs                                     | П                                                                        | lce (                                                                                                                                                                          | ubes     | 42     | -€usta            | xdy se    | sal inte                                         | act      | Yes          |                             | l      | N              | ۵ .      |              |            |           |  |  |
| · _                                                   | ≊ <b>⊘</b> γο                                                          | or to Table 1 standards - c - to unot       |                                                                                           |                                                     |                 |              | Packs I loe Cubes Gustody seal intact Yes |                                                                          |                                                                                                                                                                                |          |        |                   |           |                                                  |          |              |                             |        |                |          |              |            |           |  |  |
| _                                                     | human consumption use?                                                 | on Figert                                   |                                                                                           |                                                     |                 |              |                                           | INITIAL COOLER TEMPS                                                     |                                                                                                                                                                                |          |        |                   | KATÜREB C |                                                  |          |              | MINAL COOLER TEMPERATURES C |        |                |          |              |            |           |  |  |
| THE DANG SUM SUM                                      |                                                                        |                                             |                                                                                           | plus on Houss                                       |                 |              |                                           |                                                                          |                                                                                                                                                                                |          |        |                   |           |                                                  |          |              |                             |        |                |          |              |            |           |  |  |
| SHIPMENT RELEASE (client use)                         |                                                                        |                                             |                                                                                           | INITIAL SHIPMENT RECEPTION (lab use only)           |                 |              |                                           |                                                                          | FINAL SHIPMENT RECEPTION (lab use only)                                                                                                                                        |          |        |                   |           |                                                  |          |              |                             |        |                |          |              |            |           |  |  |
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| REFER TO BACK                                         | KPAGE FOR ALS LOCATIONS AND SAMPLIN                                    | SINFORMATION                                |                                                                                           | WH                                                  | ITE - LABORATOS | RY COPY YEI  | f0M                                       | - CLIE                                                                   | NT CO                                                                                                                                                                          | PΥ       |        |                   |           |                                                  |          |              |                             |        |                |          |              | พย         | 74. sm.w. |  |  |

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1 If any water pamples are taken from a Regulated Orinking Water (DW). System, plasse authoricaying an Authorized DW COC form

# むいい sym**ental**

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|                  | <u>www.aisglobal.com</u>                     |                           |                        |                                         |                       |                  |            |           |                                              |                  |                                                  |          | 1                   |                          |                                  |                         |               |                |              |                           |              |               |                                              |
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| Contact.         | Andrew Vermeersch                            |                           | Quality Control        | (QC) Report with Re                     | epart 🖺 YES           | □ NO             | , <u>F</u> | 4 da      | y [P4-                                       | 20%]             |                                                  |          | ra.                 | 1 Bus                    | inass                            | day [                   | [E1 - 10      | )0%]           |              |                           |              |               | <u>.                                    </u> |
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| Street:          | 72 Victoria Street South, Suite 300          |                           | Email 1 or Fax         | Andrew.Vermeers:                        | ch@jacobs.com         |                  |            | )arta- an | d Time                                       | Requi            | ned for                                          | ab E&    | TATE                | : ]                      |                                  |                         |               |                |              |                           |              |               | _                                            |
| City/Province:   | Kitchener/Ontario                            |                           | Email 2 m/L            | hack shing &                            | المرونية) - الم       | ~                | For bea    | de that o | LAR MOÈ                                      | be perf          | emed ec                                          | zordin;  | to the              | MITMOR P                 | 4VB <sup>1</sup> 34 <sup>8</sup> | ected. y                | حط اللحه فرتم | - contacted    |              |                           |              |               | _                                            |
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| Company:         | CH2M Hill Kitchener                          |                           | Email 1 or Fax         | Accounts Payable                        |                       |                  | $\Box$     |           |                                              |                  |                                                  |          |                     | - 1                      |                                  |                         |               |                |              |                           | - 1          | 訓             |                                              |
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|                  | Project Information                          |                           | Ol                     | and Gas Required                        | i Fields (client o    | US4)             | ]          |           |                                              |                  |                                                  | 1        | ĺ                   |                          |                                  |                         |               | 1              |              |                           |              | 2             |                                              |
| ALS Account #    | / Quote # Q72980                             |                           | AFE/Cast Center.       |                                         | PO#                   |                  | ]          |           |                                              | •                |                                                  | <u>a</u> |                     |                          |                                  |                         |               |                |              |                           |              | 3             |                                              |
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| ALS Lab Wor      | k Order # (lab use only): L23                | 331298                    | ALS Contact:           | Mathy                                   | Sampler:              | Andrew V.        | Inorgar    |           |                                              |                  |                                                  | and Fun  |                     |                          |                                  | 뉳                       |               |                |              |                           | ES ON        | is hez        | ROFC                                         |
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| 13               | MW106-7-5185                                 |                           |                        | 70.44.6                                 | 8-35                  | Sect             |            |           |                                              |                  |                                                  |          |                     |                          | П                                | ×                       |               |                |              | $\Box$                    | $\Box$       | $\overline{}$ |                                              |
| 14               | MW106-17 5-18.                               | <u>r</u>                  |                        |                                         |                       | 15               | X          | ×         | V                                            | ×                | V                                                |          |                     |                          | ┪                                |                         |               | $\neg$         |              | $\Box$                    | 41           | Т             |                                              |
| 15               | 84203-05-2                                   |                           | *                      |                                         |                       |                  | _          | _         | <del> </del> -                               | •                | $\sim$                                           |          |                     | $\dashv$                 | 寸                                | 7                       | -             | $\top$         |              |                           | Т.           | ╗             | मा                                           |
| i le             | BH 203 - 0 5-2                               | .,                        |                        |                                         |                       | <u> </u>         | ļ <u></u>  | , ·       | <u> </u>                                     | <u> </u>         |                                                  |          |                     |                          | 一                                | $\overline{\mathbf{x}}$ | $\neg$        | $\top$         | 1            |                           | <u>.</u>     | ヿ             | -                                            |
| 13               | BH203- 7 4-9.5                               |                           |                        |                                         | <u> </u>              |                  | v          | v         | V                                            |                  | ∀                                                |          |                     | $\neg$                   | 寸                                | *                       |               | $\top$         | 1            | 一                         | 十            | 7             | ч                                            |
| 15               | BH203 - 7.5-9.5                              |                           |                        | T .                                     | l                     | 1                | 1          |           | <del>-</del>                                 | <del>  Y</del> - | ┪                                                |          |                     | +                        | <del>- 1</del>                   | J                       | $\neg$        | $\top$         | +            | <u> </u>                  | . †          | 一             |                                              |
| 19               | BHZ 03 - 15-17                               |                           |                        |                                         | · ·                   |                  | · ·        | 1         | 1,                                           | <u> </u>         | <del>                                     </del> |          | $\vdash$            | $\dashv$                 |                                  |                         | -             | <del></del>    | +            | $\vdash$                  | 뉟            | $\dashv$      |                                              |
| 2.0              | TRIFBLANK - ZUSOB                            | - 1                       |                        | <del></del>                             | Ι'                    | +                | 1          | -X        |                                              | <del> </del> ~   | -                                                |          |                     | +                        | _                                | ~                       | +             | <del>  -</del> | ┿            | $\vdash$                  | 十            | 十             | -i''                                         |
| 2.1              |                                              | <u> </u>                  |                        |                                         |                       |                  | 1          | <u>.</u>  | _                                            | l~               | V                                                |          |                     |                          |                                  | $\dashv$                | $\rightarrow$ | $+\!\!-$       | +-           | ┝─┼                       | $\dashv$     | $\dashv$      | <u>ا</u>                                     |
| 7.               | MW101-7-5-9-5                                |                           |                        |                                         | <del>- '</del>        | 1                | <u>  ^</u> | X         | <u>                                     </u> | 1                | <u> </u>                                         |          |                     | -                        | _                                | $\overline{z}$          | +             | +              | ┼╼╌┤         | $\vdash$                  | $\dashv$     | -t            |                                              |
|                  | MW191-75-95                                  |                           | - <u>-</u>             | <u> </u>                                | · .                   |                  | 1.         |           | <u> </u>                                     | ļ.,              |                                                  |          | H                   |                          | -                                | <del>*  </del>          | $\rightarrow$ | +              |              | $oldsymbol{oldsymbol{+}}$ | ∺            | $\dashv$      |                                              |
| <u> </u>         | MW 101-20-20.5                               |                           |                        | .,                                      | 9:37                  | r <sub>t</sub>   | ×          | X         | ×                                            | ×                | X_                                               |          | ${oxed{\square}}$   | _                        | -                                | <del></del>             | $-\!\!\!+$    | +              | <b></b>      | H                         | <del>*</del> | $\dashv$      | —                                            |
|                  | <u></u> .                                    |                           |                        | Į.                                      | <u> </u>              |                  | <u> </u>   |           |                                              |                  |                                                  |          | !                   |                          |                                  |                         |               |                | لببا         | ш                         | Ш.           |               |                                              |
| Drinking 1       | Water (DW) Samples <sup>1</sup> (client use) | Special Instructions / \$ |                        |                                         | king on the drap      | down list below  | ⊢          |           |                                              | _                | SAN                                              | MPLE     |                     |                          |                                  |                         |               | IND USO        | only)        | *                         | —            | <del>-,</del> | _                                            |
| are samples take | n from a Regulated DW System?                | <u></u>                   |                        | • • • • • • • • • • • • • • • • • • • • |                       |                  |            |           | _                                            |                  |                                                  | <u>ب</u> |                     |                          |                                  |                         |               | H              |              |                           |              | - 7           | i                                            |
|                  | S INO                                        | No thing on               | سأعد في                | ٠ ۲ <del>۲</del>                        |                       |                  |            |           |                                              |                  | ,ubes                                            | 7        | <del>- Ous</del> to | my sea                   | au inta-                         | et                      | Tes           | ш              |              | 790                       |              | _             | ,                                            |
| ve samples for h | wiman consumption/ use?                      | Plant COMME               | L to Tabi              | العرابية                                | b-baiten:             | m 100            | C80        | <u> </u>  |                                              | _=               | O TEM                                            | PERA'    | THRES               | *C                       |                                  |                         | 7 FIN         | AL COOL        | ER TEM       | PERATI                    | REST         |               |                                              |
|                  | : 1 <b>2</b> NO                              | To Aug A   D   Soci       |                        |                                         |                       |                  |            |           |                                              |                  |                                                  |          |                     |                          |                                  |                         |               |                |              |                           |              |               |                                              |
|                  | SMIPMENT RELEASE (client use                 | <u> </u>                  | <u> </u>               | INITIAL QUIDNENT                        | PECEPTION             | y r Carps        | Ц          |           | $\vdash$                                     |                  | L                                                |          | INAL                | SHIP                     | AE NA                            | <u>U</u><br>BEC         | EPTIO         | N IIab :       | an ort       | <b></b>                   | 1            |               |                                              |
| Released by      | Date                                         | Time                      | Received by            | MINAL SHEWER                            |                       | (an nac durk)    | Time       | :         | Reo                                          | eived            | by:                                              |          |                     | -                        | _                                |                         | <u>مرر</u>    | - (1410 U      |              | <del>"</del>              | FigNer:      | 70            | ファ                                           |
| Andrew V         | tronewith All 21-Aire                        | -12/9 11:10               | 1                      |                                         |                       |                  |            |           |                                              |                  | •                                                | /        | 4                   |                          | 0                                | 41                      | 7             | 1/9            | 1            |                           | <u>1</u> 4   | <u>م</u> ـــ  | X                                            |
| EFER TO BACK     | PAGE FOR ALS LOCATIONS AND SAMPHIN           | G INFORMATION             |                        | LAMU!                                   | TE LABORATOR          | V CODY VEI       | 170747     | CLIER     | or co                                        | DV               |                                                  | _        |                     |                          |                                  | _                       |               | $\overline{}$  |              |                           |              | sem w         | 7 556.84                                     |



CH2M HILL CANADA LIMITED

ATTN: Andrew Vermeersch 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 22-AUG-19

Report Date: 25-SEP-19 12:43 (MT)

Version: FINAL REV. 2

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2334358
Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV.A2

C of C Numbers: Legal Site Desc:

Comments: ADDITIONAL 18-SEP-19 06:27

ADDITIONAL 11-SEP-19 07:58

Emily Hansen Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

ALS CANADA LTD Part of the ALS Group An ALS Limited Company





#### **ANALYTICAL GUIDELINE REPORT**

L2334358 CONTD....
Page 2 of 17

Page 2 of 17 25-SEP-19 12:43 (MT)

| 1.04<br>11.0<br>11.0<br>8.09<br>20.050<br>23.3<br>3.09<br>1.00<br>184 | Qualifier                                                                                                                      | 0.0040<br>0.10<br>0.10<br>0.050<br>0.10<br>0.50                                                                                                                                                | mS/cm<br>%<br>pH units<br>ug/g<br>SAR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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                                                                                                                                                                                                                                                                                                             |
|                                                                       | 1.6<br>17.6<br>:0.50<br><5.0<br>:0.10<br>:0.50<br>6.9<br>2.5<br>6.2<br>6.8<br>:0057<br><1.0<br>:0.20<br>:0.20<br>:0.50<br><1.0 | 1.6 17.6 :0.50 <5.0 :0.10 :0.50 6.9 2.5 6.2 6.8 .0057 <1.0 5.5 <1.0 :0.20 :0.50 <1.0 13.2 41.5 :0.20 :0.50 0.0068 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050 0.0050 | 1.6       1.0         17.6       1.0         20.50       0.50         3.0       0.50         3.0       0.50         3.0       0.50         3.0       0.50         3.0       0.50         3.0       0.50         3.0       0.050         3.0       0.0057         3.0       0.0050         3.0       0.0050         3.0       0.20         3.0       0.50         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20         3.0       0.20 </td <td>1.6       1.0       ug/g         17.6       1.0       ug/g         17.6       1.0       ug/g         10.50       ug/g       ug/g         10.50       ug/g       ug/g         10.10       ug/g       ug/g         10.50       ug/g       ug/g         10.50       ug/g       ug/g         10.50       ug/g       ug/g         10.0       ug/g       <t< td=""><td>1.6       1.0       ug/g       30-AUG-19         17.6       1.0       ug/g       30-AUG-19         30.50       0.50       ug/g       30-AUG-19         30.10       0.10       ug/g       30-AUG-19         30.50       ug/g       30-AUG-19</td><td>1.6</td><td>1.6         1.0         ug/g         30-AUG-19         11         18           17.6         1.0         ug/g         30-AUG-19         210         220           20.50         0.50         ug/g         30-AUG-19         2.5         2.5           2.5         2.5         2.5         2.5         2.5           2.5         30-AUG-19         36         36         36           20.10         0.10         ug/g         30-AUG-19         36         36           20.50         0.50         ug/g         30-AUG-19         36         36         36           20.50         0.50         ug/g         30-AUG-19         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36</td></t<></td> | 1.6       1.0       ug/g         17.6       1.0       ug/g         17.6       1.0       ug/g         10.50       ug/g       ug/g         10.50       ug/g       ug/g         10.10       ug/g       ug/g         10.50       ug/g       ug/g         10.50       ug/g       ug/g         10.50       ug/g       ug/g         10.0       ug/g <t< td=""><td>1.6       1.0       ug/g       30-AUG-19         17.6       1.0       ug/g       30-AUG-19         30.50       0.50       ug/g       30-AUG-19         30.10       0.10       ug/g       30-AUG-19         30.50       ug/g       30-AUG-19</td><td>1.6</td><td>1.6         1.0         ug/g         30-AUG-19         11         18           17.6         1.0         ug/g         30-AUG-19         210         220           20.50         0.50         ug/g         30-AUG-19         2.5         2.5           2.5         2.5         2.5         2.5         2.5           2.5         30-AUG-19         36         36         36           20.10         0.10         ug/g         30-AUG-19         36         36           20.50         0.50         ug/g         30-AUG-19         36         36         36           20.50         0.50         ug/g         30-AUG-19         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36</td></t<> | 1.6       1.0       ug/g       30-AUG-19         17.6       1.0       ug/g       30-AUG-19         30.50       0.50       ug/g       30-AUG-19         30.10       0.10       ug/g       30-AUG-19         30.50       ug/g       30-AUG-19 | 1.6      | 1.6         1.0         ug/g         30-AUG-19         11         18           17.6         1.0         ug/g         30-AUG-19         210         220           20.50         0.50         ug/g         30-AUG-19         2.5         2.5           2.5         2.5         2.5         2.5         2.5           2.5         30-AUG-19         36         36         36           20.10         0.10         ug/g         30-AUG-19         36         36           20.50         0.50         ug/g         30-AUG-19         36         36         36           20.50         0.50         ug/g         30-AUG-19         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36         36 |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



#### **ANALYTICAL GUIDELINE REPORT**

L2334358 CONTD....

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| Sample Details                       |        |           |        |              |           |      |          | 25-SEP-19 12 | 2:43 (MT) |
|--------------------------------------|--------|-----------|--------|--------------|-----------|------|----------|--------------|-----------|
| Grouping Analyte                     | Result | Qualifier | D.L.   | Units        | Analyzed  |      | Guidelii | ne Limits    |           |
| L2334358-1 BH201-7.5-9.5             |        |           |        |              |           |      |          |              |           |
| Sampled By: ANDREW V. on 21-AUG-19 @ | 15::   |           |        |              |           |      |          |              |           |
| Matrix: SOIL                         |        |           |        |              |           | #1   | #2       |              |           |
| Volatile Organic Compounds           |        |           |        |              |           |      |          |              |           |
| 1,3-Dichlorobenzene                  | <0.050 |           | 0.050  | ua/a         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| 1,4-Dichlorobenzene                  | <0.050 |           | 0.050  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Dichlorodifluoromethane              | <0.050 |           | 0.050  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| 1,1-Dichloroethane                   | <0.050 |           | 0.050  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| 1,2-Dichloroethane                   | <0.050 |           | 0.050  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| 1,1-Dichloroethylene                 | <0.050 |           | 0.050  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| cis-1,2-Dichloroethylene             | <0.050 |           | 0.050  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| trans-1,2-Dichloroethylene           | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Methylene Chloride                   | <0.050 |           | 0.050  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| 1,2-Dichloropropane                  | <0.050 |           | 0.050  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| cis-1,3-Dichloropropene              | <0.030 |           | 0.030  | ug/g<br>ug/g | 30-AUG-19 | 0.03 | 0.03     |              |           |
| trans-1,3-Dichloropropene            | <0.030 |           | 0.030  | ug/g<br>ug/g | 30-AUG-19 |      |          |              |           |
| 1,3-Dichloropropene (cis & trans)    | <0.030 |           | 0.030  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Ethylbenzene                         | <0.018 |           | 0.018  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| n-Hexane                             | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Methyl Ethyl Ketone                  | <0.50  |           | 0.50   | ug/g         | 30-AUG-19 | 0.5  | 0.5      |              |           |
| Methyl Isobutyl Ketone               | <0.50  |           | 0.50   | ug/g         | 30-AUG-19 | 0.5  | 0.5      |              |           |
| MTBE                                 | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Styrene                              | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| 1,1,1,2-Tetrachloroethane            | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| 1,1,2,2-Tetrachloroethane            | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Tetrachloroethylene                  | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Toluene                              | <0.080 |           | 0.080  | ug/g         | 30-AUG-19 | 0.2  | 0.2      |              |           |
| 1,1,1-Trichloroethane                | <0.050 |           | 0.050  | ug/g<br>ug/g | 30-AUG-19 | 0.05 | 0.05     |              |           |
| 1,1,2-Trichloroethane                | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Trichloroethylene                    | <0.010 |           | 0.010  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Trichlorofluoromethane               | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.25     |              |           |
| Vinyl chloride                       | <0.020 |           | 0.020  | ug/g         | 30-AUG-19 | 0.02 | 0.02     |              |           |
| o-Xylene                             | <0.020 |           | 0.020  | ug/g         | 30-AUG-19 | 0.02 | 0.02     |              |           |
| m+p-Xylenes                          | <0.030 |           | 0.030  | ug/g         | 30-AUG-19 |      |          |              |           |
| Xylenes (Total)                      | <0.050 |           | 0.050  | ug/g         | 30-AUG-19 | 0.05 | 0.05     |              |           |
| Surrogate: 4-Bromofluorobenzene      | 87.8   |           | 50-140 | %            | 30-AUG-19 |      |          |              |           |
| Surrogate: 1,4-Difluorobenzene       | 101.6  |           | 50-140 | %            | 30-AUG-19 |      |          |              |           |
| Hydrocarbons                         |        |           |        |              |           |      |          |              |           |
| F1 (C6-C10)                          | <5.0   |           | 5.0    | ug/g         | 30-AUG-19 | 17   | 25       |              |           |
| F1-BTEX                              | <5.0   |           | 5.0    | ug/g         | 30-AUG-19 | 17   | 25       |              |           |
| F2 (C10-C16)                         | <10    |           | 10     | ug/g         | 28-AUG-19 | 10   | 10       |              |           |
| F2-Naphth                            | <10    |           | 10     | ug/g         | 30-AUG-19 |      |          |              |           |
| F3 (C16-C34)                         | <50    |           | 50     | ug/g         | 28-AUG-19 | 240  | 240      |              |           |
| F3-PAH                               | <50    |           | 50     | ug/g         | 30-AUG-19 |      |          |              |           |
| F4 (C34-C50)                         | <50    |           | 50     | ug/g         | 28-AUG-19 | 120  | 120      |              |           |
| Total Hydrocarbons (C6-C50)          | <72    |           | 72     | ug/g         | 30-AUG-19 |      |          |              |           |
| Chrom. to baseline at nC50           | YES    |           |        | No Unit      | 28-AUG-19 |      |          |              |           |
| Surrogate: 2-Bromobenzotrifluoride   | 87.0   |           | 60-140 | %            | 28-AUG-19 |      |          |              |           |
| Surrogate: 3,4-Dichlorotoluene       | 70.6   |           | 60-140 | %            | 30-AUG-19 |      |          |              |           |
| Polycyclic Aromatic Hydrocarbons     |        |           |        |              |           |      |          |              |           |
|                                      |        |           |        |              |           |      |          |              |           |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| E751900.A.CS.EV.A2                   |         |           | שוטט   |       | KEPOK     | <b>.</b> | 25-       | Page 4 of 1<br>SEP-19 12:43 (M |
|--------------------------------------|---------|-----------|--------|-------|-----------|----------|-----------|--------------------------------|
| Sample Details Grouping Analyte      | Result  | Qualifier | D.L.   | Units | Analyzed  |          | Guideline | Limits                         |
| .2334358-1 BH201-7.5-9.5             |         |           |        |       |           |          |           |                                |
| Sampled By: ANDREW V. on 21-AUG-19 @ | 15::    |           |        |       |           |          |           |                                |
| Matrix: SOIL                         |         |           |        |       |           | #1       | #2        |                                |
| Polycyclic Aromatic Hydrocarbons     |         |           |        |       |           |          |           |                                |
| Acenaphthene                         | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.05     | 0.072     |                                |
| Acenaphthylene                       | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.093    | 0.093     |                                |
| Anthracene                           | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.05     | 0.16      |                                |
| Benzo(a)anthracene                   | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.095    | 0.36      |                                |
| Benzo(a)pyrene                       | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.05     | 0.3       |                                |
| Benzo(b)fluoranthene                 | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.3      | 0.47      |                                |
| Benzo(g,h,i)perylene                 | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.2      | 0.68      |                                |
| Benzo(k)fluoranthene                 | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.05     | 0.48      |                                |
| Chrysene                             | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.18     | 2.8       |                                |
| Dibenzo(ah)anthracene                | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.1      | 0.1       |                                |
| Fluoranthene                         | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.24     | 0.56      |                                |
| Fluorene                             | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.05     | 0.12      |                                |
| Indeno(1,2,3-cd)pyrene               | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.11     | 0.23      |                                |
| 1+2-Methylnaphthalenes               | <0.042  |           | 0.042  | ug/g  | 29-AUG-19 | 0.05     | 0.59      |                                |
| 1-Methylnaphthalene                  | <0.030  |           | 0.030  | ug/g  | 29-AUG-19 | 0.05     | 0.59      |                                |
| 2-Methylnaphthalene                  | <0.030  |           | 0.030  | ug/g  | 29-AUG-19 | 0.05     | 0.59      |                                |
| Naphthalene                          | <0.013  |           | 0.013  | ug/g  | 29-AUG-19 | 0.05     | 0.09      |                                |
| Phenanthrene                         | <0.046  |           | 0.046  | ug/g  | 29-AUG-19 | 0.19     | 0.69      |                                |
| Pyrene                               | <0.050  |           | 0.050  | ug/g  | 29-AUG-19 | 0.19     | 1         |                                |
| Surrogate: 2-Fluorobiphenyl          | 118.9   |           | 50-140 | %     | 29-AUG-19 | 0.10     | ·         |                                |
| Surrogate: p-Terphenyl d14           | 107.6   |           | 50-140 | %     | 29-AUG-19 |          |           |                                |
| _2334358-3 BH201-12.5-12.11"         |         |           |        |       |           |          |           |                                |
| Sampled By: ANDREW V. on 21-AUG-19 @ | 2 15:₁  |           |        |       |           |          |           |                                |
| Matrix: SOIL                         |         |           |        |       |           | #1       | #2        |                                |
| Physical Tests                       |         |           |        |       |           |          |           |                                |
| % Moisture                           | 8.05    |           | 0.10   | %     | 26-AUG-19 |          |           |                                |
| Volatile Organic Compounds           |         |           |        |       |           |          |           |                                |
| Acetone                              | <0.50   |           | 0.50   | ug/g  | 30-AUG-19 | 0.5      | 0.5       |                                |
| Benzene                              | <0.0068 |           | 0.0068 | ug/g  | 30-AUG-19 | 0.02     | 0.02      |                                |
| Bromodichloromethane                 | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| Bromoform                            | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| Bromomethane                         | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| Carbon tetrachloride                 | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| Chlorobenzene                        | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| Dibromochloromethane                 | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| Chloroform                           | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| 1,2-Dibromoethane                    | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| 1,2-Dichlorobenzene                  | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| 1,3-Dichlorobenzene                  | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| 1,4-Dichlorobenzene                  | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| Dichlorodifluoromethane              | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| 1,1-Dichloroethane                   | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| 1,2-Dichloroethane                   | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| 1,1-Dichloroethylene                 | <0.050  |           | 0.050  | ug/g  | 30-AUG-19 | 0.05     | 0.05      |                                |
| •                                    |         |           |        |       |           |          |           |                                |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



#### **ANALYTICAL GUIDELINE REPORT**

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| CE751900.A.CS.EV.A2                  | ANALII             | ICAL      | GOID   |           | INLI OI   | <b>V</b> I | 2     | Page 5 of 17<br>25-SEP-19 12:43 (MT) |
|--------------------------------------|--------------------|-----------|--------|-----------|-----------|------------|-------|--------------------------------------|
| Sample Details Grouping Analyte      | Result             | Qualifier | D.L.   | Units     | Analyzed  |            |       | ne Limits                            |
| L2334358-3 BH201-12.5-12.11"         |                    |           |        |           |           |            |       |                                      |
| Sampled By: ANDREW V. on 21-AUG-19 ( | @ 15∵.             |           |        |           |           |            |       |                                      |
|                                      | ₩ 15. <sup>,</sup> |           |        |           |           | #1         | #2    |                                      |
|                                      |                    |           |        |           |           |            |       |                                      |
| Volatile Organic Compounds           |                    |           |        |           |           |            |       |                                      |
| cis-1,2-Dichloroethylene             | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| trans-1,2-Dichloroethylene           | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| Methylene Chloride                   | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| 1,2-Dichloropropane                  | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| cis-1,3-Dichloropropene              | <0.030             |           | 0.030  | ug/g      | 30-AUG-19 |            |       |                                      |
| trans-1,3-Dichloropropene            | <0.030             |           | 0.030  | ug/g      | 30-AUG-19 |            |       |                                      |
| 1,3-Dichloropropene (cis & trans)    | <0.042             |           | 0.042  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| Ethylbenzene                         | <0.018             |           | 0.018  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| n-Hexane                             | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| Methyl Ethyl Ketone                  | <0.50              |           | 0.50   | ug/g      | 30-AUG-19 | 0.5        | 0.5   |                                      |
| Methyl Isobutyl Ketone               | <0.50              |           | 0.50   | ug/g      | 30-AUG-19 | 0.5        | 0.5   |                                      |
| MTBE                                 | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| Styrene                              | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| 1,1,1,2-Tetrachloroethane            | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| 1,1,2,2-Tetrachloroethane            | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| Tetrachloroethylene                  | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| Toluene                              | <0.080             |           | 0.080  | ug/g      | 30-AUG-19 | 0.2        | 0.2   |                                      |
| 1,1,1-Trichloroethane                | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| 1,1,2-Trichloroethane                | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| Trichloroethylene                    | <0.010             |           | 0.010  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| Trichlorofluoromethane               | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.25  |                                      |
| Vinyl chloride                       | <0.020             |           | 0.020  | ug/g      | 30-AUG-19 | 0.02       | 0.02  |                                      |
| o-Xylene                             | <0.020             |           | 0.020  | ug/g      | 30-AUG-19 |            |       |                                      |
| m+p-Xylenes                          | <0.030             |           | 0.030  | ug/g      | 30-AUG-19 |            |       |                                      |
| Xylenes (Total)                      | <0.050             |           | 0.050  | ug/g      | 30-AUG-19 | 0.05       | 0.05  |                                      |
| Surrogate: 4-Bromofluorobenzene      | 88.6               |           | 50-140 | %         | 30-AUG-19 |            |       |                                      |
| Surrogate: 1,4-Difluorobenzene       | 101.6              |           | 50-140 | %         | 30-AUG-19 |            |       |                                      |
| Hydrocarbons                         |                    |           |        |           |           |            |       |                                      |
| F1 (C6-C10)                          | <5.0               |           | 5.0    | ug/g      | 30-AUG-19 | 17         | 25    |                                      |
| F1-BTEX                              | <5.0               |           | 5.0    | ug/g      | 30-AUG-19 | 17         | 25    |                                      |
| F2 (C10-C16)                         | <10                |           | 10     | ug/g      | 28-AUG-19 | 10         | 10    |                                      |
| F3 (C16-C34)                         | 290                |           | 50     | ug/g      | 28-AUG-19 | *240       | *240  |                                      |
| F4 (C34-C50)                         | 535                |           | 50     | ug/g      | 28-AUG-19 | *120       | *120  |                                      |
| F4G-SG (GHH-Silica)                  | 1290               |           | 250    | ug/g      | 28-AUG-19 | *120       | *120  |                                      |
| Total Hydrocarbons (C6-C50)          | 826                |           | 72     | ug/g      | 30-AUG-19 |            |       |                                      |
| Chrom. to baseline at nC50           | NO                 |           |        | No Unit   | 28-AUG-19 |            |       |                                      |
| Surrogate: 2-Bromobenzotrifluoride   | 84.4               |           | 60-140 | %         | 28-AUG-19 |            |       |                                      |
| Surrogate: 3,4-Dichlorotoluene       | 70.0               |           | 60-140 | %         | 30-AUG-19 |            |       |                                      |
| L2334358-5 BH201-12.11"-13.2"        |                    |           |        |           |           |            |       |                                      |
| Sampled By: ANDREW V. on 21-AUG-19   | @ 15:              |           |        |           |           |            |       |                                      |
| Matrix: SOIL                         |                    |           |        |           |           | #1         | #2    |                                      |
| Physical Tests                       |                    |           |        |           |           |            |       |                                      |
| Conductivity                         | 1.03               |           | 0.0040 | mS/cm     | 17-SEP-19 | *0.47      | *0.57 |                                      |
| Saturated Paste Extractables         | 1.03               |           | 0.0040 | 1110/0111 | 17-351-19 | 0.47       | 0.37  |                                      |
|                                      | 47.0               | CADA      | 0.40   | CVD       | 17 000 10 | +4         | *0.4  |                                      |
| SAR                                  | 47.6               | SAR:M     | 0.10   | SAR       | 17-SEP-19 | *1         | *2.4  |                                      |

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:



#### ANALYTICAL GUIDELINE REPORT

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25-SEP-19 12:43 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2334358-5 BH201-12.11"-13.2" Sampled By: ANDREW V. on 21-AUG-19 @ 15: #1 #2 Matrix: SOIL **Saturated Paste Extractables** Calcium (Ca) 0.50 mg/L 17-SEP-19 1.31 Magnesium (Mg) < 0.50 17-SEP-19 0.50 mg/L Sodium (Na) 198 0.50 17-SEP-19 mg/L L2334358-7 BH201-25-27 Sampled By: ANDREW V. on 21-AUG-19 @ 16: #1 #2 SOIL Matrix: **Physical Tests** Conductivity 0.553 0.0040 mS/cm 19-SEP-19 \*0.47 0.57 **Saturated Paste Extractables** SAR \*2.4 SAR 4.27 0.10 19-SEP-19 0.50 Calcium (Ca) 15.8 mg/L 19-SEP-19 19-SEP-19 Magnesium (Mg) 4.77 0.50 mg/L Sodium (Na) 75.5 0.50 19-SEP-19 mg/L L2334358-8 MW100-7.5-9.5 Sampled By: ANDREW V. on 22-AUG-19 @ 08: #1 #2 Matrix: **Physical Tests** Conductivity 0.0040 mS/cm 30-AUG-19 \*0.47 \*0.57 1.31 26-AUG-19 % Moisture 6.59 0.10 % На 8.28 0.10 pH units 27-AUG-19 Cyanides Cyanide, Weak Acid Diss < 0.050 0.050 ug/g 27-AUG-19 0.051 0.051 Organic / Inorganic Carbon Fraction Organic Carbon < 0.0010 0.0010 No Unit 01-SEP-19 Fraction Organic Carbon < 0.0010 0.0010 No Unit 01-SEP-19 Fraction Organic Carbon < 0.0010 0.0010 No Unit 01-SEP-19 Average Fraction Organic Carbon < 0.0010 0.0010 No Unit 01-SEP-19 **Total Organic Carbon** < 0.10 0.10 % 01-SEP-19 Total Organic Carbon < 0.10 0.10 % 01-SEP-19 **Total Organic Carbon** < 0.10 0.10 % 01-SEP-19 Saturated Paste Extractables 65.9 SAR:M SAR 30-AUG-19 \*2.4 SAR 0.10 30-AUG-19 Calcium (Ca) 1.03 0.50 mg/L 30-AUG-19 Magnesium (Mg) < 0.50 0.50 mg/L

0.50

mg/L

30-AUG-19

Sodium (Na)

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



#### **ANALYTICAL GUIDELINE REPORT**

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| CE751900.A.CS.EV.A2                    |         |           |        |              |           |         |           | 25-SEP-19 1 | 2:43 (MT) |
|----------------------------------------|---------|-----------|--------|--------------|-----------|---------|-----------|-------------|-----------|
| Sample Details Grouping Analyte        | Result  | Qualifier | D.L.   | Units        | Analyzed  |         | Guidelir  | ne Limits   |           |
| L2334358-8 MW100-7.5-9.5               |         |           |        |              |           |         |           |             |           |
| Sampled By: ANDREW V. on 22-AUG-19 @ 0 | 3:      |           |        |              |           |         |           |             |           |
| Matrix: SOIL                           |         |           |        |              |           | #1      | #2        |             |           |
| Metals                                 |         |           |        |              |           |         |           |             |           |
| Antimony (Sb)                          | <1.0    |           | 1.0    | uala         | 30-AUG-19 | 4       | 4.0       |             |           |
| Antimony (3b) Arsenic (As)             | 1.2     |           | 1.0    | ug/g<br>ug/g | 30-AUG-19 | 1<br>11 | 1.3<br>18 |             |           |
| Barium (Ba)                            | 8.8     |           | 1.0    |              | 30-AUG-19 | 210     | 220       |             |           |
| Beryllium (Be)                         | <0.50   |           | 0.50   | ug/g<br>ug/g | 30-AUG-19 | 2.5     | 2.5       |             |           |
| Boron (B)                              | <5.0    |           | 5.0    | ug/g<br>ug/g | 30-AUG-19 | 36      | 36        |             |           |
| Boron (B), Hot Water Ext.              | <0.10   |           | 0.10   | ug/g<br>ug/g | 30-AUG-19 | 36      | 36        |             |           |
| Cadmium (Cd)                           | <0.50   |           | 0.50   | ug/g<br>ug/g | 30-AUG-19 | 1       | 1.2       |             |           |
| Chromium (Cr)                          | 4.9     |           | 1.0    | ug/g<br>ug/g | 30-AUG-19 | 67      | 70        |             |           |
| Cobalt (Co)                            | 1.4     |           | 1.0    | ug/g         | 30-AUG-19 | 19      | 21        |             |           |
| Copper (Cu)                            | 4.0     |           | 1.0    | ug/g         | 30-AUG-19 | 62      | 92        |             |           |
| Lead (Pb)                              | 6.5     |           | 1.0    | ug/g         | 30-AUG-19 | 45      | 120       |             |           |
| Mercury (Hg)                           | <0.0050 |           | 0.0050 | ug/g         | 30-AUG-19 | 0.16    | 0.27      |             |           |
| Molybdenum (Mo)                        | <1.0    |           | 1.0    | ug/g         | 30-AUG-19 | 2       | 2         |             |           |
| Nickel (Ni)                            | 3.3     |           | 1.0    | ug/g         | 30-AUG-19 | 37      | 82        |             |           |
| Selenium (Se)                          | <1.0    |           | 1.0    | ug/g         | 30-AUG-19 | 1.2     | 1.5       |             |           |
| Silver (Ag)                            | <0.20   |           | 0.20   | ug/g         | 30-AUG-19 | 0.5     | 0.5       |             |           |
| Thallium (TI)                          | <0.50   |           | 0.50   | ug/g         | 30-AUG-19 | 1       | 1         |             |           |
| Uranium (U)                            | <1.0    |           | 1.0    | ug/g         | 30-AUG-19 | 1.9     | 2.5       |             |           |
| Vanadium (V)                           | 8.9     |           | 1.0    | ug/g         | 30-AUG-19 | 86      | 86        |             |           |
| Zinc (Zn)                              | 42.1    |           | 5.0    | ug/g         | 30-AUG-19 | 290     | 290       |             |           |
| Speciated Metals                       |         |           |        | 3.3          |           |         |           |             |           |
| Chromium, Hexavalent                   | <0.20   |           | 0.20   | ug/g         | 28-AUG-19 | 0.66    | 0.66      |             |           |
| Volatile Organic Compounds             |         |           |        | 3.3          |           |         |           |             |           |
| Acetone                                | <0.50   |           | 0.50   | ug/g         | 31-AUG-19 | 0.5     | 0.5       |             |           |
| Benzene                                | <0.0068 |           | 0.0068 | ug/g         | 31-AUG-19 | 0.02    | 0.02      |             |           |
| Bromodichloromethane                   | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| Bromoform                              | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| Bromomethane                           | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| Carbon tetrachloride                   | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| Chlorobenzene                          | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| Dibromochloromethane                   | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| Chloroform                             | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| 1,2-Dibromoethane                      | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| 1,2-Dichlorobenzene                    | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| 1,3-Dichlorobenzene                    | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| 1,4-Dichlorobenzene                    | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| Dichlorodifluoromethane                | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| 1,1-Dichloroethane                     | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| 1,2-Dichloroethane                     | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| 1,1-Dichloroethylene                   | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| cis-1,2-Dichloroethylene               | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| trans-1,2-Dichloroethylene             | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| Methylene Chloride                     | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| 1,2-Dichloropropane                    | < 0.050 |           | 0.050  | ug/g         | 31-AUG-19 | 0.05    | 0.05      |             |           |
| cis-1,3-Dichloropropene                | < 0.030 |           | 0.030  | ug/g         | 31-AUG-19 |         |           |             |           |
|                                        |         |           |        |              |           |         |           |             |           |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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CE751900.A.CS.EV.A2 25-SEP-19 12:43 (MT) Sample Details Grouping Qualifier D.L. Units Analyte Result Analyzed **Guideline Limits** L2334358-8 MW100-7.5-9.5 Sampled By: ANDREW V. on 22-AUG-19 @ 08: #1 #2 Matrix: SOIL **Volatile Organic Compounds** < 0.030 0.030 31-AUG-19 trans-1,3-Dichloropropene ug/g < 0.042 1,3-Dichloropropene (cis & trans) 0.042 ug/g 31-AUG-19 0.05 0.05 Ethylbenzene < 0.018 0.018 ug/g 31-AUG-19 0.05 0.05 n-Hexane < 0.050 0.050 31-AUG-19 0.05 0.05 ug/g Methyl Ethyl Ketone < 0.50 0.50 ug/g 31-AUG-19 0.5 0.5 Methyl Isobutyl Ketone < 0.50 0.50 31-AUG-19 0.5 ug/g 0.5 MTBE < 0.050 0.050 31-AUG-19 ug/g 0.05 0.05 0.050 31-AUG-19 Styrene < 0.050 ug/g 0.05 0.05 1,1,1,2-Tetrachloroethane < 0.050 0.050 ug/g 31-AUG-19 0.05 0.05 1,1,2,2-Tetrachloroethane < 0.050 0.050 31-AUG-19 0.05 0.05 ug/g Tetrachloroethylene < 0.050 0.050 31-AUG-19 ug/g 0.05 0.05 Toluene <0.080 0.080 ug/g 31-AUG-19 0.2 0.2 1,1,1-Trichloroethane < 0.050 0.050 ug/g 31-AUG-19 0.05 0.05 1,1,2-Trichloroethane < 0.050 0.050 31-AUG-19 0.05 0.05 ug/g Trichloroethylene < 0.010 0.010 31-AUG-19 0.05 0.05 ug/g Trichlorofluoromethane < 0.050 0.050 31-AUG-19 0.25 ug/g 0.05 Vinyl chloride < 0.020 0.020 ug/g 31-AUG-19 0.02 0.02 o-Xylene < 0.020 0.020 ug/g 31-AUG-19 < 0.030 m+p-Xylenes 0.030 31-AUG-19 ug/g < 0.050 0.050 31-AUG-19 0.05 Xylenes (Total) ug/g 0.05 Surrogate: 4-Bromofluorobenzene 88.2 50-140 % 31-AUG-19 31-AUG-19 Surrogate: 1,4-Difluorobenzene 107.0 50-140 % Hydrocarbons F1 (C6-C10) <5.0 5.0 ug/g 04-SEP-19 17 25 F1-BTEX < 5.0 5.0 04-SEP-19 25 ug/g 17 F2 (C10-C16) 28-AUG-19 <10 10 ug/g 10 10 <10 04-SFP-19 F2-Naphth 10 ug/g F3 (C16-C34) <50 50 ug/g 28-AUG-19 240 240 F3-PAH <50 50 ug/g 04-SEP-19 F4 (C34-C50) <50 50 ug/g 28-AUG-19 120 120 04-SEP-19 Total Hydrocarbons (C6-C50) <72 72 ug/g Chrom. to baseline at nC50 YES No Unit 28-AUG-19 Surrogate: 2-Bromobenzotrifluoride 85.6 60-140 % 28-AUG-19 Surrogate: 3,4-Dichlorotoluene 85.5 60-140 % 04-SEP-19 **Polycyclic Aromatic Hydrocarbons** Acenaphthene < 0.050 0.050 30-AUG-19 0.05 0.072 ug/g 0.050 30-AUG-19 Acenaphthylene < 0.050 0.093 0.093 ug/g < 0.050 0.050 30-AUG-19 Anthracene ug/g 0.05 0.16 0.050 30-AUG-19 Benzo(a)anthracene < 0.050 ug/g 0.095 0.36 Benzo(a)pyrene < 0.050 0.050 ug/g 30-AUG-19 0.05 0.3 Benzo(b)fluoranthene < 0.050 0.050 30-AUG-19 0.3 0.47 ug/g Benzo(g,h,i)perylene < 0.050 0.050 ug/g 30-AUG-19 0.2 0.68 Benzo(k)fluoranthene < 0.050 0.050 30-AUG-19 0.05 0.48 ug/g < 0.050 0.050 30-AUG-19 0.18 Chrysene ug/g 2.8 < 0.050 0.050 30-AUG-19 Dibenzo(ah)anthracene ug/g 0.1 0.1

< 0.050

0.050

ug/g

Fluoranthene

0.24

0.56

30-AUG-19

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



#### **ANALYTICAL GUIDELINE REPORT**

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25-SEP-19 12:43 (MT)

| Sample Details                         |             |           |              |          |                        |       |          | 25-SEP-19 1 | 2:43 (MT) |
|----------------------------------------|-------------|-----------|--------------|----------|------------------------|-------|----------|-------------|-----------|
| Grouping Analyte                       | Result      | Qualifier | D.L.         | Units    | Analyzed               |       | Guidelir | ne Limits   |           |
| L2334358-8 MW100-7.5-9.5               |             |           |              |          |                        |       |          |             |           |
| Sampled By: ANDREW V. on 22-AUG-19 @ 0 | 8:          |           |              |          |                        |       |          |             |           |
| Matrix: SOIL                           |             |           |              |          |                        | #1    | #2       |             |           |
| Polycyclic Aromatic Hydrocarbons       |             |           |              |          |                        |       |          |             |           |
| Fluorene                               | <0.050      |           | 0.050        | ug/g     | 30-AUG-19              | 0.05  | 0.12     |             |           |
| Indeno(1,2,3-cd)pyrene                 | <0.050      |           | 0.050        | ug/g     | 30-AUG-19              | 0.11  | 0.12     |             |           |
| 1+2-Methylnaphthalenes                 | <0.042      |           | 0.042        | ug/g     | 30-AUG-19              | 0.05  | 0.59     |             |           |
| 1-Methylnaphthalene                    | <0.030      |           | 0.030        | ug/g     | 30-AUG-19              | 0.05  | 0.59     |             |           |
| 2-Methylnaphthalene                    | <0.030      |           | 0.030        | ug/g     | 30-AUG-19              | 0.05  | 0.59     |             |           |
| Naphthalene                            | <0.013      |           | 0.013        | ug/g     | 30-AUG-19              | 0.05  | 0.09     |             |           |
| Phenanthrene                           | <0.046      |           | 0.046        | ug/g     | 30-AUG-19              | 0.19  | 0.69     |             |           |
| Pyrene                                 | <0.050      |           | 0.050        | ug/g     | 30-AUG-19              | 0.19  | 1        |             |           |
| Surrogate: 2-Fluorobiphenyl            | 85.5        |           | 50-140       | %        | 30-AUG-19              |       |          |             |           |
| Surrogate: p-Terphenyl d14             | 80.0        |           | 50-140       | %        | 30-AUG-19              |       |          |             |           |
| L2334358-10 MW100-15-17                |             |           |              |          |                        |       |          |             |           |
| Sampled By: ANDREW V. on 22-AUG-19 @ 0 | Q           |           |              |          |                        |       |          |             |           |
| Matrix: SOIL                           | J.          |           |              |          |                        | #1    | #2       |             |           |
|                                        |             |           |              |          |                        |       |          |             |           |
| Physical Tests                         | 4.40        |           |              |          |                        |       |          |             |           |
| Conductivity                           | 1.40        |           | 0.0040       | mS/cm    | 17-SEP-19              | *0.47 | *0.57    |             |           |
| Organic / Inorganic Carbon             |             |           |              |          |                        |       |          |             |           |
| Fraction Organic Carbon                | <0.0010     |           | 0.0010       | No Unit  | 01-SEP-19              |       |          |             |           |
|                                        |             |           |              |          |                        |       |          |             |           |
| Fraction Organic Carbon                | <0.0010     |           | 0.0010       | No Unit  | 01-SEP-19              |       |          |             |           |
|                                        |             |           |              |          |                        |       |          |             |           |
| Fraction Organic Carbon                | <0.0010     |           | 0.0010       | No Unit  | 01-SEP-19              |       |          |             |           |
| Tradion Organic Garbon                 | 40.0010     |           | 0.0010       | 140 01   | 01 021 10              |       |          |             |           |
|                                        |             |           |              |          |                        |       |          |             |           |
| Average Fraction Organic Carbon        | <0.0010     |           | 0.0010       | No Unit  | 01-SEP-19              |       |          |             |           |
| Total Organic Carbon                   | <0.10       |           | 0.10         | %        | 01-SEP-19              |       |          |             |           |
|                                        |             |           |              |          |                        |       |          |             |           |
| Total Organic Carbon                   | <0.10       |           | 0.10         | %        | 01-SEP-19              |       |          |             |           |
|                                        |             |           |              |          |                        |       |          |             |           |
| Total Organic Carbon                   | <0.10       |           | 0.10         | %        | 01-SEP-19              |       |          |             |           |
|                                        |             |           |              |          |                        |       |          |             |           |
| Seturated Boots Evites - 1-1-1         |             |           |              |          |                        |       |          |             |           |
| Saturated Paste Extractables           | 40.0        |           | 0.10         | 0.5      | 47.055.15              | , .   | 16       |             |           |
| SAR                                    | 16.3        |           | 0.10         | SAR      | 17-SEP-19              | *1    | *2.4     |             |           |
| Calcium (Ca)                           | 9.93        |           | 0.50         | mg/L     | 17-SEP-19              |       |          |             |           |
| Magnesium (Mg)<br>Sodium (Na)          | 4.90<br>251 |           | 0.50<br>0.50 | mg/L     | 17-SEP-19<br>17-SEP-19 |       |          |             |           |
|                                        | 201         |           | 0.50         | mg/L     | 11-957-19              |       |          |             |           |
| L2334358-12 BH204-11-12                |             |           |              |          |                        |       |          |             |           |
| Sampled By: ANDREW V. on 22-AUG-19 @ 1 | 5::         |           |              |          |                        | #4    | #0       |             |           |
| Matrix: SOIL                           |             |           |              |          |                        | #1    | #2       |             |           |
| Physical Tests                         |             |           |              |          |                        |       |          |             |           |
| Conductivity                           | 0.508       |           | 0.0040       | mS/cm    | 03-SEP-19              | *0.47 | 0.57     |             |           |
| % Moisture                             | 6.34        |           | 0.10         | %        | 26-AUG-19              |       |          |             |           |
| pH                                     | 8.06        |           | 0.10         | pH units | 29-AUG-19              |       |          |             |           |
| 1.                                     | -           | -         |              | -        | -                      |       |          |             |           |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.A2                    |               |           |             |              |                        |          |          | 25-SEP-19 12:43 (MT |
|----------------------------------------|---------------|-----------|-------------|--------------|------------------------|----------|----------|---------------------|
| Sample Details Grouping Analyte        | Result        | Qualifier | D.L.        | Units        | Analyzed               |          | Guidelir | ne Limits           |
| L2334358-12 BH204-11-12                |               |           |             |              |                        |          |          |                     |
| Sampled By: ANDREW V. on 22-AUG-19 @   | 15::          |           |             |              |                        |          |          |                     |
| Matrix: SOIL                           |               |           |             |              |                        | #1       | #2       |                     |
| Cyanides                               |               |           |             |              |                        |          |          |                     |
| Cyanide, Weak Acid Diss                | <0.050        |           | 0.050       | ug/g         | 27-AUG-19              | 0.051    | 0.051    |                     |
| Organic / Inorganic Carbon             | 10.000        |           | 0.000       | ug/g         | 27 7.00 10             | 0.001    | 0.001    |                     |
| Fraction Organic Carbon                | <0.0010       |           | 0.0010      | No Unit      | 01-SEP-19              |          |          |                     |
| Traction Organic Carbon                | 10.0010       |           | 0.0010      | 110 01111    | 01 021 10              |          |          |                     |
| Fraction Organic Carbon                | <0.0010       |           | 0.0010      | No Unit      | 01-SEP-19              |          |          |                     |
| action Organic Caison                  | 10.0010       |           | 0.00.0      | 110 01       | 0.02                   |          |          |                     |
| Fraction Organic Carbon                | <0.0010       |           | 0.0010      | No Unit      | 01-SEP-19              |          |          |                     |
|                                        |               |           |             |              |                        |          |          |                     |
| Average Fraction Organic Carbon        | <0.0010       |           | 0.0010      | No Unit      | 01-SEP-19              |          |          |                     |
| Total Organic Carbon                   | <0.10         |           | 0.10        | %            | 01-SEP-19              |          |          |                     |
|                                        |               |           |             |              |                        |          |          |                     |
| Total Organic Carbon                   | <0.10         |           | 0.10        | %            | 01-SEP-19              |          |          |                     |
|                                        |               |           |             |              |                        |          |          |                     |
| Total Organic Carbon                   | <0.10         |           | 0.10        | %            | 01-SEP-19              |          |          |                     |
| Total Organic Carbon                   | <b>40.10</b>  |           | 0.10        | 76           | 01-321-19              |          |          |                     |
| Saturated Paste Extractables           |               |           |             |              |                        |          |          |                     |
| SAR                                    | 7.51          |           | 0.10        | SAR          | 30-AUG-19              | *1       | *2.4     |                     |
| Calcium (Ca)                           | 6.34          |           | 0.50        | mg/L         | 30-AUG-19              |          |          |                     |
| Magnesium (Mg)                         | 1.10          |           | 0.50        | mg/L         | 30-AUG-19              |          |          |                     |
| Sodium (Na)                            | 77.9          |           | 0.50        | mg/L         | 30-AUG-19              |          |          |                     |
| Metals                                 |               |           |             |              |                        |          |          |                     |
| Antimony (Sb)                          | <1.0          |           | 1.0         | ug/g         | 30-AUG-19              | 1        | 1.3      |                     |
| Arsenic (As)                           | 1.8           |           | 1.0         | ug/g         | 30-AUG-19              | 11       | 18       |                     |
| Barium (Ba)                            | 12.2          |           | 1.0         | ug/g         | 30-AUG-19              | 210      | 220      |                     |
| Beryllium (Be)                         | <0.50<br><5.0 |           | 0.50<br>5.0 | ug/g         | 30-AUG-19<br>30-AUG-19 | 2.5      | 2.5      |                     |
| Boron (B)<br>Boron (B), Hot Water Ext. | 0.12          |           | 0.10        | ug/g         | 30-AUG-19              | 36<br>36 | 36<br>36 |                     |
| Cadmium (Cd)                           | <0.50         |           | 0.10        | ug/g         | 30-AUG-19              | 1        | 1.2      |                     |
| Chromium (Cr)                          | 6.5           |           | 1.0         | ug/g<br>ug/g | 30-AUG-19              | 67       | 70       |                     |
| Cobalt (Co)                            | 2.2           |           | 1.0         | ug/g         | 30-AUG-19              | 19       | 21       |                     |
| Copper (Cu)                            | 5.9           |           | 1.0         | ug/g         | 30-AUG-19              | 62       | 92       |                     |
| Lead (Pb)                              | 15.4          |           | 1.0         | ug/g<br>ug/g | 30-AUG-19              | 45       | 120      |                     |
| Mercury (Hg)                           | <0.0050       |           | 0.0050      | ug/g         | 30-AUG-19              | 0.16     | 0.27     |                     |
| Molybdenum (Mo)                        | <1.0          |           | 1.0         | ug/g         | 30-AUG-19              | 2        | 2        |                     |
| Nickel (Ni)                            | 5.0           |           | 1.0         | ug/g         | 30-AUG-19              | 37       | 82       |                     |
| Selenium (Se)                          | <1.0          |           | 1.0         | ug/g         | 30-AUG-19              | 1.2      | 1.5      |                     |
| Silver (Ag)                            | <0.20         |           | 0.20        | ug/g         | 30-AUG-19              | 0.5      | 0.5      |                     |
| Thallium (TI)                          | <0.50         |           | 0.50        | ug/g         | 30-AUG-19              | 1        | 1        |                     |
| Uranium (U)                            | <1.0          |           | 1.0         | ug/g         | 30-AUG-19              | 1.9      | 2.5      |                     |
| Vanadium (V)                           | 13.8          |           | 1.0         | ug/g         | 30-AUG-19              | 86       | 86       |                     |
| Zinc (Zn)                              | 53.5          |           | 5.0         | ug/g         | 30-AUG-19              | 290      | 290      |                     |
| Speciated Metals                       |               |           |             |              |                        |          |          |                     |
|                                        |               |           |             | 1            |                        |          |          |                     |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.A2                      | ANALI            | IICAL     | GUID           | LLINL        | KEPUK                  | \ I          | 2            | Page 11 of 17<br>25-SEP-19 12:43 (M |
|------------------------------------------|------------------|-----------|----------------|--------------|------------------------|--------------|--------------|-------------------------------------|
| Sample Details Grouping Analyte          | Result           | Qualifier | D.L.           | Units        | Analyzed               |              |              | ne Limits                           |
| L2334358-12 BH204-11-12                  |                  |           |                |              |                        |              |              |                                     |
| Sampled By: ANDREW V. on 22-AUG-19 @     | 2 15::           |           |                |              |                        |              |              |                                     |
| Matrix: SOIL                             |                  |           |                |              |                        | #1           | #2           |                                     |
| Speciated Metals                         |                  |           |                |              |                        |              |              |                                     |
| Chromium, Hexavalent                     | <0.20            |           | 0.20           | ua/a         | 28-AUG-19              | 0.66         | 0.66         |                                     |
| Volatile Organic Compounds               | <0.20            |           | 0.20           | ug/g         | 20-AUG-19              | 0.00         | 0.00         |                                     |
| •                                        | -0.50            |           | 0.50           | /~           | 02 CED 10              | 0.5          | 0.5          |                                     |
| Acetone<br>Benzene                       | <0.50<br><0.0068 |           | 0.50<br>0.0068 | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.5<br>0.02  | 0.5          |                                     |
| Bromodichloromethane                     | <0.000           |           | 0.000          | ug/g         | 02-SEP-19<br>02-SEP-19 |              | 0.02<br>0.05 |                                     |
| Bromoform                                | <0.050           |           | 0.050          | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05<br>0.05 | 0.05         |                                     |
| Bromomethane                             | <0.050           |           | 0.050          | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         |              |                                     |
| Carbon tetrachloride                     | <0.050           |           | 0.050          | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.05<br>0.05 |                                     |
|                                          |                  |           |                | ug/g         |                        |              |              |                                     |
| Chlorobenzene Dibromochloromethane       | <0.050<br><0.050 |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| Chloroform                               | <0.050           |           | 0.050          | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.05         |                                     |
|                                          |                  |           | 0.050          | ug/g         |                        | 0.05         | 0.05         |                                     |
| 1,2-Dibromoethane                        | <0.050<br><0.050 |           | 0.050<br>0.050 | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.05         |                                     |
| 1,2-Dichlorobenzene                      |                  |           |                | ug/g         |                        | 0.05         | 0.05         |                                     |
| 1,3-Dichlorobenzene                      | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| 1,4-Dichlorobenzene                      | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| Dichlorodifluoromethane                  | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| 1,1-Dichloroethane                       | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| 1,2-Dichloroethane                       | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| 1,1-Dichloroethylene                     | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| cis-1,2-Dichloroethylene                 | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| trans-1,2-Dichloroethylene               | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| Methylene Chloride                       | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| 1,2-Dichloropropane                      | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| cis-1,3-Dichloropropene                  | <0.030           |           | 0.030          | ug/g         | 02-SEP-19              |              |              |                                     |
| trans-1,3-Dichloropropene                | <0.030           |           | 0.030<br>0.042 | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.05         |                                     |
| 1,3-Dichloropropene (cis & trans)        | <0.042<br><0.018 |           | 0.042          | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.05         |                                     |
| Ethylbenzene<br>n-Hexane                 | <0.018           |           |                | ug/g         |                        | 0.05         | 0.05         |                                     |
|                                          |                  |           | 0.050          | ug/g         | 02-SEP-19              | 0.05         | 0.05         |                                     |
| Methyl Ethyl Ketone                      | <0.50            |           | 0.50           | ug/g         | 02-SEP-19              | 0.5          | 0.5          |                                     |
| Methyl Isobutyl Ketone                   | <0.50            |           | 0.50           | ug/g         | 02-SEP-19              | 0.5          | 0.5          |                                     |
| MTBE<br>Styrene                          | <0.050<br><0.050 |           | 0.050<br>0.050 | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.05         |                                     |
| 1,1,1,2-Tetrachloroethane                | <0.050           |           | 0.050          | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.05         |                                     |
| 1,1,2,2-Tetrachloroethane                | <0.050           |           | 0.050          | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.05         |                                     |
| Tetrachloroethylene                      | <0.050           |           | 0.050          | ug/g<br>ug/g | 02-SEP-19<br>02-SEP-19 | 0.05<br>0.05 | 0.05<br>0.05 |                                     |
| Toluene                                  | <0.030           |           | 0.030          |              | 02-SEP-19              |              |              |                                     |
| 1,1,1-Trichloroethane                    | <0.050           |           | 0.050          | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.2<br>0.05  | 0.2<br>0.05  |                                     |
| 1,1,2-Trichloroethane                    | <0.050           |           | 0.050          | ug/g         | 02-SEP-19              |              |              |                                     |
| Trichloroethylene                        | <0.050           |           |                | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05<br>0.05 | 0.05<br>0.05 |                                     |
| Trichloroethylene Trichlorofluoromethane | <0.010           |           | 0.010          | ug/g         |                        |              |              |                                     |
| Vinyl chloride                           | <0.050           |           | 0.050<br>0.020 | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.25         |                                     |
| •                                        |                  |           |                | ug/g         | 02-SEP-19<br>02-SEP-19 | 0.02         | 0.02         |                                     |
| o-Xylene<br>m+p-Xylenes                  | <0.020<br><0.030 |           | 0.020<br>0.030 | ug/g         | 02-SEP-19<br>02-SEP-19 |              |              |                                     |
| Xylenes (Total)                          | <0.050           |           | 0.050          | ug/g<br>ug/g | 02-SEP-19<br>02-SEP-19 | 0.05         | 0.05         |                                     |
| Surrogate: 4-Bromofluorobenzene          | 91.9             |           | 50-140         | ug/g<br>  %  | 02-SEP-19              | 0.00         | 0.03         |                                     |
| Surrogate: 4-biomondorobenzene           | 110.2            |           | 50-140         | %<br>%       | 02-SEP-19              |              |              |                                     |
| Sarrogato. 1,4-Dilluoroberizerie         | 110.2            |           | 00-140         | /0           | 02 OL1 -13             |              |              |                                     |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| 751900.A.CS.EV.A2                    | ANALI  |           |        |         |           | <b>.</b> | 2        | Page 12<br><u>5-SEP-19 1</u> |  |
|--------------------------------------|--------|-----------|--------|---------|-----------|----------|----------|------------------------------|--|
| Sample Details<br>Grouping Analyte   | Result | Qualifier | D.L.   | Units   | Analyzed  |          | Guidelir | e Limits                     |  |
| 2334358-12 BH204-11-12               |        |           |        |         |           |          |          |                              |  |
| sampled By: ANDREW V. on 22-AUG-19 @ | 15::   |           |        |         |           |          |          |                              |  |
| Matrix: SOIL                         |        |           |        |         |           | #1       | #2       |                              |  |
| -<br>Hydrocarbons                    |        |           |        |         |           |          |          |                              |  |
| F1 (C6-C10)                          | <5.0   |           | 5.0    | ug/g    | 02-SEP-19 | 17       | 25       |                              |  |
| F1-BTEX                              | <5.0   |           | 5.0    | ug/g    | 02-SEP-19 | 17       | 25       |                              |  |
| F2 (C10-C16)                         | <10    |           | 10     | ug/g    | 28-AUG-19 | 10       | 10       |                              |  |
| F2-Naphth                            | <10    |           | 10     | ug/g    | 02-SEP-19 | 10       | 10       |                              |  |
| F3 (C16-C34)                         | <50    |           | 50     | ug/g    | 28-AUG-19 | 240      | 240      |                              |  |
| F3-PAH                               | <50    |           | 50     | ug/g    | 02-SEP-19 | 210      | 210      |                              |  |
| F4 (C34-C50)                         | <50    |           | 50     | ug/g    | 28-AUG-19 | 120      | 120      |                              |  |
| Total Hydrocarbons (C6-C50)          | <72    |           | 72     | ug/g    | 02-SEP-19 |          |          |                              |  |
| Chrom. to baseline at nC50           | YES    |           |        | No Unit | 28-AUG-19 |          |          |                              |  |
| Surrogate: 2-Bromobenzotrifluoride   | 84.8   |           | 60-140 | %       | 28-AUG-19 |          |          |                              |  |
| Surrogate: 3,4-Dichlorotoluene       | 75.5   |           | 60-140 | %       | 02-SEP-19 |          |          |                              |  |
| Polycyclic Aromatic Hydrocarbons     |        |           |        |         |           |          |          |                              |  |
| Acenaphthene                         | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.05     | 0.072    |                              |  |
| Acenaphthylene                       | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.093    | 0.093    |                              |  |
| Anthracene                           | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.05     | 0.16     |                              |  |
| Benzo(a)anthracene                   | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.095    | 0.36     |                              |  |
| Benzo(a)pyrene                       | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.05     | 0.3      |                              |  |
| Benzo(b)fluoranthene                 | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.3      | 0.47     |                              |  |
| Benzo(g,h,i)perylene                 | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.2      | 0.68     |                              |  |
| Benzo(k)fluoranthene                 | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.05     | 0.48     |                              |  |
| Chrysene                             | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.18     | 2.8      |                              |  |
| Dibenzo(ah)anthracene                | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.1      | 0.1      |                              |  |
| Fluoranthene                         | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.24     | 0.56     |                              |  |
| Fluorene                             | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.05     | 0.12     |                              |  |
| Indeno(1,2,3-cd)pyrene               | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.11     | 0.23     |                              |  |
| 1+2-Methylnaphthalenes               | <0.042 |           | 0.042  | ug/g    | 29-AUG-19 | 0.05     | 0.59     |                              |  |
| 1-Methylnaphthalene                  | <0.030 |           | 0.030  | ug/g    | 29-AUG-19 | 0.05     | 0.59     |                              |  |
| 2-Methylnaphthalene                  | <0.030 |           | 0.030  | ug/g    | 29-AUG-19 | 0.05     | 0.59     |                              |  |
| Naphthalene                          | <0.013 |           | 0.013  | ug/g    | 29-AUG-19 | 0.05     | 0.09     |                              |  |
| Phenanthrene                         | <0.046 |           | 0.046  | ug/g    | 29-AUG-19 | 0.19     | 0.69     |                              |  |
| Pyrene                               | <0.050 |           | 0.050  | ug/g    | 29-AUG-19 | 0.19     | 1        |                              |  |
| Surrogate: 2-Fluorobiphenyl          | 104.4  |           | 50-140 | %       | 29-AUG-19 | 00       | ·        |                              |  |
| Surrogate: p-Terphenyl d14           | 97.8   |           | 50-140 | %       | 29-AUG-19 |          |          |                              |  |
| 2334358-14 BH204-15-15.11"           |        |           |        |         |           |          |          |                              |  |
| campled By: ANDREW V. on 22-AUG-19 @ | 15:    |           |        |         |           |          |          |                              |  |
| Matrix: SOIL                         |        |           |        |         |           | #1       | #2       |                              |  |
|                                      |        |           |        |         |           |          |          |                              |  |
| Saturated Paste Extractables         | 6.15   |           |        | 04.5    | 47.055.15 | * -      | 1.5      |                              |  |
| SAR                                  | 6.49   |           | 0.10   | SAR     | 17-SEP-19 | *1       | *2.4     |                              |  |
| Calcium (Ca)                         | 4.37   |           | 0.50   | mg/L    | 17-SEP-19 |          |          |                              |  |
| Magnesium (Mg)                       | 1.37   |           | 0.50   | mg/L    | 17-SEP-19 |          |          |                              |  |
| Sodium (Na)                          | 60.7   | -         | 0.50   | mg/L    | 17-SEP-19 |          |          |                              |  |
| 2334358-15 BH204-17.5-18.9"          |        |           |        |         |           |          |          |                              |  |
| campled By: ANDREW V. on 22-AUG-19 @ | 16:1   |           |        |         |           |          |          |                              |  |
| Matrix: SOIL                         |        |           |        |         |           | #1       | #2       |                              |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.A2                   | ANALI            | ICAL      | טוטט           | CLINE        | KEPUK                  | <b>1</b>     | ;            | Page 13 of 17<br>25-SEP-19 12:43 (MT) |
|---------------------------------------|------------------|-----------|----------------|--------------|------------------------|--------------|--------------|---------------------------------------|
| Sample Details Grouping Analyte       | Result           | Qualifier | D.L.           | Units        | Analyzed               |              |              | ne Limits                             |
|                                       |                  | Qualifier |                |              | Analyzeu               |              | Guideili     | ie Liiiits                            |
| L2334358-15 BH204-17.5-18.9"          | 16.              |           |                |              |                        |              |              |                                       |
| Sampled By: ANDREW V. on 22-AUG-19 @  | 16:1             |           |                |              |                        | #1           | #2           |                                       |
| Matrix: SOIL                          |                  |           |                |              |                        |              |              |                                       |
| Saturated Paste Extractables          |                  |           |                |              |                        |              |              |                                       |
| SAR                                   | 8.40             |           | 0.10           | SAR          | 23-SEP-19              | *1           | *2.4         |                                       |
| Calcium (Ca)                          | 3.90             |           | 0.50           | mg/L         | 23-SEP-19              |              |              |                                       |
| Magnesium (Mg)                        | 0.85             |           | 0.50           | mg/L         | 23-SEP-19              |              |              |                                       |
| Sodium (Na)                           | 70.2             |           | 0.50           | mg/L         | 23-SEP-19              |              |              |                                       |
| L2334358-16 TRIP BLANK - 20190822     |                  |           |                |              |                        |              |              |                                       |
| Sampled By: ANDREW V. on 22-AUG-19    |                  |           |                |              |                        |              |              |                                       |
| Matrix: SOIL                          |                  |           |                |              |                        | #1           | #2           |                                       |
| Physical Tests                        |                  |           |                |              |                        |              |              |                                       |
| Physical Tests                        |                  |           |                |              |                        |              |              |                                       |
| % Moisture                            | <0.10            |           | 0.10           | %            | 26-AUG-19              |              |              |                                       |
| Volatile Organic Compounds            |                  |           |                |              | <u>-</u>               |              |              |                                       |
| Acetone                               | <0.50            |           | 0.50           | ug/g         | 30-AUG-19              | 0.5          | 0.5          |                                       |
| Benzene                               | <0.0068          |           | 0.0068         | ug/g         | 30-AUG-19              | 0.02         | 0.02         |                                       |
| Bromodichloromethane                  | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Bromoform                             | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Bromomethane                          | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Carbon tetrachloride                  | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Chlorobenzene                         | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Dibromochloromethane                  | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Chloroform                            | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| 1,2-Dibromoethane 1,2-Dichlorobenzene | <0.050<br><0.050 |           | 0.050<br>0.050 | ug/g         | 30-AUG-19<br>30-AUG-19 | 0.05<br>0.05 | 0.05<br>0.05 |                                       |
| 1,3-Dichlorobenzene                   | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| 1,4-Dichlorobenzene                   | <0.050           |           | 0.050          | ug/g<br>ug/g | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Dichlorodifluoromethane               | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| 1,1-Dichloroethane                    | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| 1,2-Dichloroethane                    | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| 1,1-Dichloroethylene                  | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| cis-1,2-Dichloroethylene              | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| trans-1,2-Dichloroethylene            | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Methylene Chloride                    | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| 1,2-Dichloropropane                   | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| cis-1,3-Dichloropropene               | <0.030           |           | 0.030          | ug/g         | 30-AUG-19              |              |              |                                       |
| trans-1,3-Dichloropropene             | <0.030           |           | 0.030          | ug/g         | 30-AUG-19              |              |              |                                       |
| 1,3-Dichloropropene (cis & trans)     | <0.042           |           | 0.042          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Ethylbenzene                          | <0.018           |           | 0.018          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| n-Hexane                              | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Methyl Ethyl Ketone                   | <0.50            |           | 0.50           | ug/g         | 30-AUG-19              | 0.5          | 0.5          |                                       |
| Methyl Isobutyl Ketone                | <0.50            |           | 0.50           | ug/g         | 30-AUG-19              | 0.5          | 0.5          |                                       |
| MTBE                                  | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Styrene                               | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| 1,1,1,2-Tetrachloroethane             | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| 1,1,2,2-Tetrachloroethane             | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Tetrachloroethylene                   | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |
| Toluene                               | <0.080           |           | 0.080          | ug/g         | 30-AUG-19              | 0.2          | 0.2          |                                       |
| 1,1,1-Trichloroethane                 | <0.050           |           | 0.050          | ug/g         | 30-AUG-19              | 0.05         | 0.05         |                                       |

<sup>\*\*</sup> 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:



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| E751900.A.CS.EV.A2                 |        |           |        |       |           |      | :        | 25-SEP-19 12:43 |  |
|------------------------------------|--------|-----------|--------|-------|-----------|------|----------|-----------------|--|
| Sample Details<br>Grouping Analyte | Result | Qualifier | D.L.   | Units | Analyzed  |      | Guidelir | ne Limits       |  |
| .2334358-16 TRIP BLANK - 20190822  |        |           |        |       |           |      |          |                 |  |
| Sampled By: ANDREW V. on 22-AUG-19 |        |           |        |       |           |      |          |                 |  |
| Matrix: SOIL                       |        |           |        |       |           | #1   | #2       | T T             |  |
| /olatile Organic Compounds         |        |           |        |       |           |      |          |                 |  |
| 1,1,2-Trichloroethane              | <0.050 |           | 0.050  | ug/g  | 30-AUG-19 | 0.05 | 0.05     |                 |  |
| Trichloroethylene                  | <0.010 |           | 0.010  | ug/g  | 30-AUG-19 | 0.05 | 0.05     |                 |  |
| Trichlorofluoromethane             | <0.050 |           | 0.050  | ug/g  | 30-AUG-19 | 0.05 | 0.25     |                 |  |
| Vinyl chloride                     | <0.020 |           | 0.020  | ug/g  | 30-AUG-19 | 0.02 | 0.02     |                 |  |
| o-Xylene                           | <0.020 |           | 0.020  | ug/g  | 30-AUG-19 |      |          |                 |  |
| m+p-Xylenes                        | <0.030 |           | 0.030  | ug/g  | 30-AUG-19 |      |          |                 |  |
| Xylenes (Total)                    | <0.050 |           | 0.050  | ug/g  | 30-AUG-19 | 0.05 | 0.05     |                 |  |
| Surrogate: 4-Bromofluorobenzene    | 96.4   |           | 50-140 | %     | 30-AUG-19 |      |          |                 |  |
| Surrogate: 1,4-Difluorobenzene     | 110.2  |           | 50-140 | %     | 30-AUG-19 |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |
|                                    |        |           |        |       |           |      |          |                 |  |

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:

#### **Reference Information**

Sample Parameter Qualifier key listed:

| Qualifier      | Description                                                                                         |                            |                        |  |  |  |  |  |  |  |
|----------------|-----------------------------------------------------------------------------------------------------|----------------------------|------------------------|--|--|--|--|--|--|--|
| SAR:M          | Reported SAR represents a maximum value. Actual SAR may be lower if both Ca and Mg were detectable. |                            |                        |  |  |  |  |  |  |  |
| Methods Listed | d (if applicable):                                                                                  |                            |                        |  |  |  |  |  |  |  |
| ALS Test Code  | Matrix                                                                                              | Test Description           | Method Reference***    |  |  |  |  |  |  |  |
| B-HWS-R511-V   | VT Soil                                                                                             | Boron-HWE-O.Reg 153/04 (Ju | ıly 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).

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

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).

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 CCME CWS-PHC, Pub #1310, Dec 2001-S

Parameters

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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

#### **Reference Information**

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-sq 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), 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

MOE DECPH-E3398/CCME TIER 1

2011)
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).

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 200.2/6020A (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 technique is 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), 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

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).

TOC-R511-WT Soil TOC & FOC-O.Reg 153/04 (July CARTER 21.3.2

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).

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

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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG

must be reported).

WT

XYLENES-SUM-CALC-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 Location** Laboratory Definition Code

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.



Workorder: L2334358 Report Date: 25-SEP-19 Page 1 of 24

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                                        | Matrix | Reference                | Result | Qualifier | Units | RPD  | Limit  | Analyzed  |
|-------------------------------------------------------------|--------|--------------------------|--------|-----------|-------|------|--------|-----------|
| B-HWS-R511-WT                                               | Soil   |                          | _      |           |       |      |        |           |
| Batch R4778014                                              |        |                          |        |           |       |      |        |           |
| WG3147944-4 DUP<br>Boron (B), Hot Water E                   | xt.    | <b>L2334881-4</b> <0.10  | <0.10  | RPD-NA    | ug/g  | N/A  | 30     | 30-AUG-19 |
| WG3147944-2 IRM<br>Boron (B), Hot Water Ex                  | xt.    | WT SAR3                  | 89.1   |           | %     |      | 70-130 | 30-AUG-19 |
| WG3147944-3 LCS<br>Boron (B), Hot Water Ex                  | xt.    |                          | 90.3   |           | %     |      | 70-130 | 30-AUG-19 |
| WG3147944-1 MB<br>Boron (B), Hot Water E                    | xt.    |                          | <0.10  |           | ug/g  |      | 0.1    | 30-AUG-19 |
| Batch R4778084                                              |        |                          |        |           |       |      |        |           |
| WG3147947-4 DUP<br>Boron (B), Hot Water Ex                  | xt.    | <b>L2334909-8</b> 0.61   | 0.42   | J         | ug/g  | 0.18 | 0.2    | 30-AUG-19 |
| WG3147947-2 IRM<br>Boron (B), Hot Water Ex                  | xt.    | WT SAR3                  | 96.4   |           | %     |      | 70-130 | 30-AUG-19 |
| WG3147947-3 LCS<br>Boron (B), Hot Water Ex                  | ×t.    |                          | 92.7   |           | %     |      | 70-130 | 30-AUG-19 |
| WG3147947-1 MB<br>Boron (B), Hot Water E                    | ×t.    |                          | <0.10  |           | ug/g  |      | 0.1    | 30-AUG-19 |
| Batch R4778708                                              |        |                          |        |           |       |      |        |           |
| WG3148173-4 DUP<br>Boron (B), Hot Water E                   | xt.    | <b>L2335221-1</b> 0.10   | <0.10  | RPD-NA    | ug/g  | N/A  | 30     | 30-AUG-19 |
| WG3148173-2 IRM<br>Boron (B), Hot Water E                   | xt.    | WT SAR3                  | 108.2  |           | %     |      | 70-130 | 30-AUG-19 |
| WG3148173-3 LCS<br>Boron (B), Hot Water E                   | xt.    |                          | 87.0   |           | %     |      | 70-130 | 30-AUG-19 |
| WG3148173-1 MB<br>Boron (B), Hot Water E                    | xt.    |                          | <0.10  |           | ug/g  |      | 0.1    | 30-AUG-19 |
| CN-WAD-R511-WT                                              | Soil   |                          |        |           |       |      |        |           |
| Batch R4769677<br>WG3143125-3 DUP<br>Cyanide, Weak Acid Dis | ss     | <b>L2334162-1</b> <0.050 | <0.050 | RPD-NA    | ug/g  | N/A  | 35     | 27-AUG-19 |
| WG3143125-2 LCS Cyanide, Weak Acid Dis                      |        |                          | 100.2  | 2 (       | %     |      | 80-120 | 27-AUG-19 |
| WG3143125-1 MB<br>Cyanide, Weak Acid Dis                    | SS     |                          | <0.050 |           | ug/g  |      | 0.05   | 27-AUG-19 |
| WG3143125-4 MS<br>Cyanide, Weak Acid Dis                    | ss     | L2334162-1               | 99.0   |           | %     |      | 70-130 | 27-AUG-19 |
| CR-CR6-IC-WT                                                | Soil   |                          |        |           |       |      |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                              | Matrix Refer        | rence Result                | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------------------|---------------------|-----------------------------|-----------|-------|-----|--------|-----------|
| CR-CR6-IC-WT Batch R4776371                       | Soil                |                             |           |       |     |        |           |
| WG3144604-4 CRM<br>Chromium, Hexavalent           | WT-S                | <b>SQC012</b> 93.1          |           | %     |     | 70-130 | 28-AUG-19 |
| WG3144943-4 CRM<br>Chromium, Hexavalent           | WT-\$               | SQC012<br>108.7             |           | %     |     | 70-130 | 28-AUG-19 |
| WG3144604-3 DUP<br>Chromium, Hexavalent           | <b>L233</b> <0.20   | 3 <b>4881-10</b><br>0 <0.20 | RPD-NA    | ug/g  | N/A | 35     | 28-AUG-19 |
| WG3144943-3 DUP<br>Chromium, Hexavalent           | <b>L233</b> <0.20   | 3 <b>5834-1</b><br>0 <0.20  | RPD-NA    | ug/g  | N/A | 35     | 28-AUG-19 |
| WG3144604-2 LCS<br>Chromium, Hexavalent           |                     | 90.0                        |           | %     |     | 80-120 | 28-AUG-19 |
| WG3144943-2 LCS<br>Chromium, Hexavalent           |                     | 96.2                        |           | %     |     | 80-120 | 28-AUG-19 |
| WG3144604-1 MB<br>Chromium, Hexavalent            |                     | <0.20                       |           | ug/g  |     | 0.2    | 28-AUG-19 |
| WG3144943-1 MB<br>Chromium, Hexavalent            |                     | <0.20                       |           | ug/g  |     | 0.2    | 28-AUG-19 |
| EC-WT                                             | Soil                |                             |           |       |     |        |           |
| Batch R4778062<br>WG3147952-4 DUP<br>Conductivity | <b>WG3</b><br>0.270 | <b>3147952-3</b><br>0 0.278 |           | mS/cm | 2.9 | 20     | 30-AUG-19 |
| WG3147952-2 IRM<br>Conductivity                   | WT S                | <b>SAR3</b> 96.1            |           | %     |     | 70-130 | 30-AUG-19 |
| WG3148323-1 LCS<br>Conductivity                   |                     | 98.4                        |           | %     |     | 90-110 | 30-AUG-19 |
| WG3147952-1 MB<br>Conductivity                    |                     | <0.0040                     |           | mS/cm |     | 0.004  | 30-AUG-19 |
| Batch R4778331                                    |                     |                             |           |       |     |        |           |
| WG3147953-4 DUP<br>Conductivity                   | 0.75                |                             |           | mS/cm | 3.5 | 20     | 30-AUG-19 |
| WG3147953-2 IRM<br>Conductivity                   | WT S                | <b>SAR3</b><br>94.2         |           | %     |     | 70-130 | 30-AUG-19 |
| WG3148320-1 LCS<br>Conductivity                   |                     | 98.4                        |           | %     |     | 90-110 | 30-AUG-19 |
| WG3147953-1 MB<br>Conductivity                    |                     | <0.0040                     |           | mS/cm |     | 0.004  | 30-AUG-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                              |              | Matrix | Reference                 | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|-----------------------------------|--------------|--------|---------------------------|---------|-----------|-------|-----|--------|-----------|
| EC-WT                             |              | Soil   |                           |         |           |       |     |        |           |
| Batch R                           | R4781750     |        |                           |         |           |       |     |        |           |
| WG3148157-4<br>Conductivity       | DUP          |        | <b>WG3148157-3</b> 0.0769 | 0.0905  |           | mS/cm | 16  | 20     | 03-SEP-19 |
| WG3148157-2<br>Conductivity       | IRM          |        | WT SAR3                   | 121.7   |           | %     |     | 70-130 | 03-SEP-19 |
| WG3150148-1<br>Conductivity       | LCS          |        |                           | 101.3   |           | %     |     | 90-110 | 03-SEP-19 |
| WG3148157-1<br>Conductivity       | MB           |        |                           | <0.0040 |           | mS/cm |     | 0.004  | 03-SEP-19 |
| Batch R                           | R4815848     |        |                           |         |           |       |     |        |           |
| WG3163992-4                       |              |        | WG3163992-3               |         |           |       |     |        |           |
| Conductivity                      | БОГ          |        | 0.116                     | 0.120   |           | mS/cm | 3.3 | 20     | 17-SEP-19 |
| WG3163992-2                       | IRM          |        | WT SAR3                   |         |           |       |     |        |           |
| Conductivity                      |              |        | 77.07.410                 | 84.1    |           | %     |     | 70-130 | 17-SEP-19 |
| WG3164224-1<br>Conductivity       |              |        |                           | 98.1    |           | %     |     | 90-110 | 17-SEP-19 |
| WG3163992-1<br>Conductivity       | МВ           |        |                           | <0.0040 |           | mS/cm |     | 0.004  | 17-SEP-19 |
| Batch R                           | R4823598     |        |                           |         |           |       |     |        |           |
| WG3166637-4                       | DUP          |        | WG3166637-3               |         |           |       |     |        |           |
| Conductivity                      |              |        | 0.553                     | 0.547   |           | mS/cm | 1.1 | 20     | 19-SEP-19 |
| WG3166637-2<br>Conductivity       | IRM          |        | WT SAR3                   | 89.8    |           | %     |     | 70-130 | 19-SEP-19 |
| WG3166867-1<br>Conductivity       | LCS          |        |                           | 101.1   |           | %     |     | 90-110 | 19-SEP-19 |
| WG3166637-1<br>Conductivity       | МВ           |        |                           | <0.0040 |           | mS/cm |     | 0.004  | 19-SEP-19 |
| F1-HS-511-WT                      |              | Soil   |                           |         |           |       |     |        |           |
|                                   | R4778742     | -      |                           |         |           |       |     |        |           |
| WG3145214-4                       |              |        | WG3145214-3               |         |           |       |     |        |           |
| F1 (C6-C10)                       | DUP          |        | <5.0                      | <5.0    | RPD-NA    | ug/g  | N/A | 30     | 30-AUG-19 |
| <b>WG3145214-2</b><br>F1 (C6-C10) | LCS          |        |                           | 105.5   |           | %     |     | 80-120 | 30-AUG-19 |
| <b>WG3145214-1</b><br>F1 (C6-C10) | МВ           |        |                           | <5.0    |           | ug/g  |     | 5      | 30-AUG-19 |
| Surrogate: 3,4                    | I-Dichlorote | oluene |                           | 83.9    |           | %     |     | 60-140 | 30-AUG-19 |
| <b>WG3145214-6</b><br>F1 (C6-C10) |              |        | L2334358-3                | 95.6    |           | %     |     | 60-140 | 30-AUG-19 |
|                                   |              |        |                           |         |           |       |     |        |           |



Contact:

# **Quality Control Report**

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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Andrew Vermeersch

| Test                               |                       | Matrix       | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------------------|-----------------------|--------------|-------------|--------|-----------|-------|-----|--------|-----------|
| F1-HS-511-WT                       |                       | Soil         |             |        |           |       |     |        |           |
| Batch R4                           | 1780049               |              |             |        |           |       |     |        |           |
| WG3145355-4                        | DUP                   |              | WG3145355-3 |        |           |       |     |        |           |
| F1 (C6-C10)                        |                       |              | <5.0        | <5.0   | RPD-NA    | ug/g  | N/A | 30     | 02-SEP-19 |
| <b>WG3145355-2</b> F1 (C6-C10)     | LCS                   |              |             | 108.9  |           | %     |     | 80-120 | 02-SEP-19 |
| <b>WG3145355-1</b><br>F1 (C6-C10)  | MB                    |              |             | <5.0   |           | ug/g  |     | 5      | 02-SEP-19 |
| Surrogate: 3,4-                    | Dichlorote            | oluene       |             | 100.9  |           | %     |     | 60-140 | 02-SEP-19 |
| WG3145355-6                        | MS                    |              | L2334897-5  |        |           |       |     |        |           |
| F1 (C6-C10)                        |                       |              |             | 99.0   |           | %     |     | 60-140 | 02-SEP-19 |
| F2-F4-511-WT                       |                       | Soil         |             |        |           |       |     |        |           |
|                                    | 1775311               |              |             |        |           |       |     |        |           |
| WG3143004-3                        | DUP                   |              | WG3143004-5 |        |           |       |     |        |           |
| F2 (C10-C16)                       |                       |              | <10         | <10    | RPD-NA    | ug/g  | N/A | 30     | 28-AUG-19 |
| F3 (C16-C34)                       |                       |              | <50         | <50    | RPD-NA    | ug/g  | N/A | 30     | 28-AUG-19 |
| F4 (C34-C50)                       |                       |              | <50         | <50    | RPD-NA    | ug/g  | N/A | 30     | 28-AUG-19 |
| WG3143004-2                        | LCS                   |              |             |        |           |       |     |        |           |
| F2 (C10-C16)                       |                       |              |             | 94.1   |           | %     |     | 80-120 | 28-AUG-19 |
| F3 (C16-C34)                       |                       |              |             | 99.7   |           | %     |     | 80-120 | 28-AUG-19 |
| F4 (C34-C50)                       |                       |              |             | 93.9   |           | %     |     | 80-120 | 28-AUG-19 |
| WG3143004-1                        | MB                    |              |             |        |           |       |     |        |           |
| F2 (C10-C16)                       |                       |              |             | <10    |           | ug/g  |     | 10     | 28-AUG-19 |
| F3 (C16-C34)                       |                       |              |             | <50    |           | ug/g  |     | 50     | 28-AUG-19 |
| F4 (C34-C50)                       |                       |              |             | <50    |           | ug/g  |     | 50     | 28-AUG-19 |
| Surrogate: 2-Br                    | omobenz               | otrifluoride |             | 77.6   |           | %     |     | 60-140 | 28-AUG-19 |
| WG3143004-4                        | MS                    |              | WG3143004-5 |        |           |       |     |        |           |
| F2 (C10-C16)                       |                       |              |             | 94.3   |           | %     |     | 60-140 | 28-AUG-19 |
| F3 (C16-C34)                       |                       |              |             | 102.5  |           | %     |     | 60-140 | 28-AUG-19 |
| F4 (C34-C50)                       |                       |              |             | 95.6   |           | %     |     | 60-140 | 28-AUG-19 |
| F4G-ADD-511-WT                     |                       | Soil         |             |        |           |       |     |        |           |
| Batch R4                           | 1778026               |              |             |        |           |       |     |        |           |
| <b>WG3148377-2</b><br>F4G-SG (GHH- | LCS<br>-Silica)       |              |             | 72.6   |           | %     |     | 60-140 | 28-AUG-19 |
| <b>WG3148377-1</b><br>F4G-SG (GHH- | <b>MB</b><br>-Silica) |              |             | <250   |           | ug/g  |     | 250    | 28-AUG-19 |
| HG-200.2-CVAA-W                    | /Т                    | Soil         |             |        |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                | Matrix | Reference                 | Result               | Qualifier | Units | RPD | Limit      | Analyzed  |
|-------------------------------------|--------|---------------------------|----------------------|-----------|-------|-----|------------|-----------|
| HG-200.2-CVAA-WT                    | Soil   |                           |                      |           |       |     |            |           |
| Batch R4778360                      |        |                           |                      |           |       |     |            |           |
| WG3147914-2 CRM<br>Mercury (Hg)     |        | WT-CANMET-                | <b>TILL1</b><br>91.9 |           | %     |     | 70-130     | 30-AUG-19 |
| WG3147914-6 DUP<br>Mercury (Hg)     |        | <b>WG3147914-5</b> 0.0061 | 0.0061               |           | ug/g  | 1.2 | 40         | 30-AUG-19 |
| <b>WG3147914-3 LCS</b> Mercury (Hg) |        |                           | 99.5                 |           | %     |     | 80-120     | 30-AUG-19 |
| <b>WG3147914-1 MB</b> Mercury (Hg)  |        |                           | <0.0050              |           | mg/kg |     | 0.005      | 30-AUG-19 |
| MET-200.2-CCMS-WT                   | Soil   |                           |                      |           |       |     |            |           |
| Batch R4780329                      |        |                           |                      |           |       |     |            |           |
| WG3147914-2 CRM<br>Antimony (Sb)    |        | WT-CANMET-                | <b>TILL1</b><br>97.1 |           | %     |     | 70-130     | 30-AUG-19 |
| Arsenic (As)                        |        |                           | 92.7                 |           | %     |     | 70-130     | 30-AUG-19 |
| Barium (Ba)                         |        |                           | 93.0                 |           | %     |     | 70-130     | 30-AUG-19 |
| Beryllium (Be)                      |        |                           | 89.8                 |           | %     |     | 70-130     | 30-AUG-19 |
| Boron (B)                           |        |                           | 2.4                  |           | mg/kg |     | 0-8.2      | 30-AUG-19 |
| Cadmium (Cd)                        |        |                           | 92.5                 |           | %     |     | 70-130     | 30-AUG-19 |
| Chromium (Cr)                       |        |                           | 93.3                 |           | %     |     | 70-130     | 30-AUG-19 |
| Cobalt (Co)                         |        |                           | 92.0                 |           | %     |     | 70-130     | 30-AUG-19 |
| Copper (Cu)                         |        |                           | 94.1                 |           | %     |     | 70-130     | 30-AUG-19 |
| Lead (Pb)                           |        |                           | 92.2                 |           | %     |     | 70-130     | 30-AUG-19 |
| Molybdenum (Mo)                     |        |                           | 93.3                 |           | %     |     | 70-130     | 30-AUG-19 |
| Nickel (Ni)                         |        |                           | 92.0                 |           | %     |     | 70-130     | 30-AUG-19 |
| Selenium (Se)                       |        |                           | 0.27                 |           | mg/kg |     | 0.11-0.51  | 30-AUG-19 |
| Silver (Ag)                         |        |                           | 0.22                 |           | mg/kg |     | 0.13-0.33  | 30-AUG-19 |
| Thallium (TI)                       |        |                           | 0.113                |           | mg/kg |     | 0.077-0.18 | 30-AUG-19 |
| Uranium (U)                         |        |                           | 92.8                 |           | %     |     | 70-130     | 30-AUG-19 |
| Vanadium (V)                        |        |                           | 91.3                 |           | %     |     | 70-130     | 30-AUG-19 |
| Zinc (Zn)                           |        |                           | 88.6                 |           | %     |     | 70-130     | 30-AUG-19 |
| WG3147914-6 DUP<br>Antimony (Sb)    |        | <b>WG3147914-5</b> <0.10  | <0.10                | RPD-NA    | ug/g  | N/A | 30         | 30-AUG-19 |
| Arsenic (As)                        |        | 1.13                      | 0.99                 |           | ug/g  | 13  | 30         | 30-AUG-19 |
|                                     |        | 10.0                      | 9.05                 |           | ug/g  | 10  | 40         | 30-AUG-19 |
| Barium (Ba)                         |        |                           |                      |           |       |     |            |           |
| Barium (Ba)<br>Beryllium (Be)       |        | 0.12                      | 0.12                 |           | ug/g  | 0.3 | 30         | 30-AUG-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| est                             | Matrix | Reference                   | Result | Qualifier  | Units | RPD | Limit  | Analyzed  |
|---------------------------------|--------|-----------------------------|--------|------------|-------|-----|--------|-----------|
| MET-200.2-CCMS-WT               | Soil   |                             |        |            |       |     |        |           |
| Batch R4780329                  |        |                             |        |            |       |     |        |           |
| WG3147914-6 DUP<br>Cadmium (Cd) |        | <b>WG3147914-5</b><br>0.054 | 0.046  |            | ug/g  | 16  | 30     | 30-AUG-19 |
| Chromium (Cr)                   |        | 5.10                        | 4.49   |            | ug/g  | 13  | 30     | 30-AUG-19 |
| Cobalt (Co)                     |        | 1.60                        | 1.40   |            | ug/g  | 13  | 30     | 30-AUG-19 |
| Copper (Cu)                     |        | 2.85                        | 2.59   |            | ug/g  | 9.4 | 30     | 30-AUG-19 |
| Lead (Pb)                       |        | 4.00                        | 3.77   |            | ug/g  | 6.0 | 40     | 30-AUG-19 |
| Molybdenum (Mo)                 |        | 0.11                        | 0.11   |            | ug/g  | 1.0 | 40     | 30-AUG-19 |
| Nickel (Ni)                     |        | 3.35                        | 3.13   |            | ug/g  | 6.7 | 30     | 30-AUG-19 |
| Selenium (Se)                   |        | <0.20                       | <0.20  | RPD-NA     | ug/g  | N/A | 30     | 30-AUG-19 |
| Silver (Ag)                     |        | <0.10                       | <0.10  | RPD-NA     | ug/g  | N/A | 40     | 30-AUG-19 |
| Thallium (TI)                   |        | <0.050                      | <0.050 | RPD-NA     | ug/g  | N/A | 30     | 30-AUG-19 |
| Uranium (U)                     |        | 0.279                       | 0.228  | 11. 2 10.1 | ug/g  | 20  | 30     | 30-AUG-19 |
| Vanadium (V)                    |        | 12.5                        | 9.67   |            | ug/g  | 26  | 30     | 30-AUG-19 |
| Zinc (Zn)                       |        | 22.1                        | 19.9   |            | ug/g  | 10  | 30     | 30-AUG-19 |
| WG3147914-4 LCS                 |        |                             |        |            | 3.3   |     |        | 007.00 10 |
| Antimony (Sb)                   |        |                             | 102.5  |            | %     |     | 80-120 | 30-AUG-19 |
| Arsenic (As)                    |        |                             | 97.8   |            | %     |     | 80-120 | 30-AUG-19 |
| Barium (Ba)                     |        |                             | 99.4   |            | %     |     | 80-120 | 30-AUG-19 |
| Beryllium (Be)                  |        |                             | 94.1   |            | %     |     | 80-120 | 30-AUG-19 |
| Boron (B)                       |        |                             | 88.2   |            | %     |     | 80-120 | 30-AUG-19 |
| Cadmium (Cd)                    |        |                             | 97.4   |            | %     |     | 80-120 | 30-AUG-19 |
| Chromium (Cr)                   |        |                             | 96.6   |            | %     |     | 80-120 | 30-AUG-19 |
| Cobalt (Co)                     |        |                             | 94.6   |            | %     |     | 80-120 | 30-AUG-19 |
| Copper (Cu)                     |        |                             | 93.8   |            | %     |     | 80-120 | 30-AUG-19 |
| Lead (Pb)                       |        |                             | 96.4   |            | %     |     | 80-120 | 30-AUG-19 |
| Molybdenum (Mo)                 |        |                             | 102.3  |            | %     |     | 80-120 | 30-AUG-19 |
| Nickel (Ni)                     |        |                             | 94.4   |            | %     |     | 80-120 | 30-AUG-19 |
| Selenium (Se)                   |        |                             | 96.3   |            | %     |     | 80-120 | 30-AUG-19 |
| Silver (Ag)                     |        |                             | 90.5   |            | %     |     | 80-120 | 30-AUG-19 |
| Thallium (TI)                   |        |                             | 93.4   |            | %     |     | 80-120 | 30-AUG-19 |
| Uranium (U)                     |        |                             | 97.1   |            | %     |     | 80-120 | 30-AUG-19 |
| Vanadium (V)                    |        |                             | 97.0   |            | %     |     | 80-120 | 30-AUG-19 |
| Zinc (Zn)                       |        |                             | 92.6   |            | %     |     | 80-120 | 30-AUG-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                 | Matrix | Reference  | Result  | Qualifier | Units | RPD | Limit  | Analyzed               |
|--------------------------------------|--------|------------|---------|-----------|-------|-----|--------|------------------------|
| MET-200.2-CCMS-WT                    | Soil   |            |         |           |       |     |        |                        |
| Batch R4780329                       |        |            |         |           |       |     |        |                        |
| <b>WG3147914-1 MB</b> Antimony (Sb)  |        |            | <0.10   |           | mg/kg |     | 0.1    | 00 4110 40             |
| Arsenic (As)                         |        |            | <0.10   |           | mg/kg |     | 0.1    | 30-AUG-19              |
| Barium (Ba)                          |        |            | <0.50   |           | mg/kg |     | 0.5    | 30-AUG-19<br>30-AUG-19 |
| Beryllium (Be)                       |        |            | <0.10   |           | mg/kg |     | 0.1    | 30-AUG-19              |
| Boron (B)                            |        |            | <5.0    |           | mg/kg |     | 5      | 30-AUG-19              |
| Cadmium (Cd)                         |        |            | <0.020  |           | mg/kg |     | 0.02   | 30-AUG-19              |
| Chromium (Cr)                        |        |            | <0.50   |           | mg/kg |     | 0.5    | 30-AUG-19              |
| Cobalt (Co)                          |        |            | <0.10   |           | mg/kg |     | 0.1    | 30-AUG-19              |
| Copper (Cu)                          |        |            | <0.50   |           | mg/kg |     | 0.5    | 30-AUG-19              |
| Lead (Pb)                            |        |            | <0.50   |           | mg/kg |     | 0.5    | 30-AUG-19              |
| Molybdenum (Mo)                      |        |            | <0.10   |           | mg/kg |     | 0.1    | 30-AUG-19              |
| Nickel (Ni)                          |        |            | <0.50   |           | mg/kg |     | 0.5    | 30-AUG-19              |
| Selenium (Se)                        |        |            | <0.20   |           | mg/kg |     | 0.2    | 30-AUG-19              |
| Silver (Ag)                          |        |            | <0.10   |           | mg/kg |     | 0.1    | 30-AUG-19              |
| Thallium (TI)                        |        |            | < 0.050 |           | mg/kg |     | 0.05   | 30-AUG-19              |
| Uranium (U)                          |        |            | < 0.050 |           | mg/kg |     | 0.05   | 30-AUG-19              |
| Vanadium (V)                         |        |            | <0.20   |           | mg/kg |     | 0.2    | 30-AUG-19              |
| Zinc (Zn)                            |        |            | <2.0    |           | mg/kg |     | 2      | 30-AUG-19              |
|                                      | Cail   |            |         |           | 3 3   |     |        | 00 NOC 10              |
| MOISTURE-WT                          | Soil   |            |         |           |       |     |        |                        |
| Batch R4768377<br>WG3143001-3 DUP    |        | L2334389-9 |         |           |       |     |        |                        |
| % Moisture                           |        | 8.47       | 8.07    |           | %     | 4.8 | 20     | 26-AUG-19              |
| WG3143001-2 LCS                      |        |            |         |           |       |     |        |                        |
| % Moisture                           |        |            | 99.95   |           | %     |     | 90-110 | 26-AUG-19              |
| <b>WG3143001-1 MB</b><br>% Moisture  |        |            | <0.10   |           | %     |     | 0.1    | 26-AUG-19              |
| Batch R4768382                       |        |            |         |           |       |     |        | 207.00                 |
| WG3143027-3 DUP                      |        | L2334805-2 |         |           |       |     |        |                        |
| % Moisture                           |        | 5.35       | 5.38    |           | %     | 0.5 | 20     | 26-AUG-19              |
| <b>WG3143027-2 LCS</b><br>% Moisture |        |            | 100.5   |           | %     |     | 90-110 | 26-AUG-19              |
| <b>WG3143027-1 MB</b><br>% Moisture  |        |            | <0.10   |           | %     |     | 0.1    | 26-AUG-19              |
| PAH-511-WT                           | Soil   |            |         |           |       |     |        |                        |



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                   | Matrix | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|----------------------------------------|--------|-------------|---------|-----------|-------|-----|--------|-----------|
| PAH-511-WT                             | Soil   |             |         |           |       |     |        |           |
| Batch R4775768<br>WG3141307-3 DUP      |        | WG3141307-5 | i<br>i  |           |       |     |        |           |
| 1-Methylnaphthalene                    |        | <0.030      | <0.030  | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| 2-Methylnaphthalene                    |        | <0.030      | <0.030  | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Acenaphthene                           |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Acenaphthylene                         |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Anthracene                             |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(a)anthracene                     |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(a)pyrene                         |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(b)fluoranthene                   |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(g,h,i)perylene                   |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(k)fluoranthene                   |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Chrysene                               |        | < 0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Dibenzo(ah)anthracene                  |        | < 0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Fluoranthene                           |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Fluorene                               |        | < 0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Indeno(1,2,3-cd)pyrene                 |        | < 0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Naphthalene                            |        | <0.013      | <0.013  | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Phenanthrene                           |        | <0.046      | <0.046  | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Pyrene                                 |        | < 0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| WG3141307-2 LCS<br>1-Methylnaphthalene |        |             | 118.7   |           | %     |     | 50-140 | 29-AUG-19 |
| 2-Methylnaphthalene                    |        |             | 112.1   |           | %     |     | 50-140 | 29-AUG-19 |
| Acenaphthene                           |        |             | 120.0   |           | %     |     | 50-140 | 29-AUG-19 |
| Acenaphthylene                         |        |             | 118.6   |           | %     |     | 50-140 | 29-AUG-19 |
| Anthracene                             |        |             | 117.8   |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(a)anthracene                     |        |             | 116.8   |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(a)pyrene                         |        |             | 111.9   |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(b)fluoranthene                   |        |             | 124.3   |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(g,h,i)perylene                   |        |             | 110.1   |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(k)fluoranthene                   |        |             | 109.8   |           | %     |     | 50-140 | 29-AUG-19 |
| Chrysene                               |        |             | 126.6   |           | %     |     | 50-140 | 29-AUG-19 |
| Dibenzo(ah)anthracene                  |        |             | 108.6   |           | %     |     | 50-140 | 29-AUG-19 |
| Fluoranthene                           |        |             | 113.3   |           | %     |     | 50-140 | 29-AUG-19 |
| Fluorene                               |        |             | 116.6   |           | %     |     | 50-140 | 29-AUG-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                  | Matrix | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------|--------|-------------|---------|-----------|-------|-----|--------|-----------|
| PAH-511-WT                            | Soil   |             |         |           |       |     |        |           |
| Batch R4775768                        |        |             |         |           |       |     |        |           |
| WG3141307-2 LCS                       |        |             | 00.5    |           | 0/    |     | 50.440 |           |
| Indeno(1,2,3-cd)pyrene                |        |             | 98.5    |           | %     |     | 50-140 | 29-AUG-19 |
| Naphthalene                           |        |             | 117.2   |           | %     |     | 50-140 | 29-AUG-19 |
| Phenanthrene                          |        |             | 120.8   |           | %     |     | 50-140 | 29-AUG-19 |
| Pyrene                                |        |             | 113.1   |           | %     |     | 50-140 | 29-AUG-19 |
| WG3141307-1 MB<br>1-Methylnaphthalene |        |             | <0.030  |           | ug/g  |     | 0.03   | 29-AUG-19 |
| 2-Methylnaphthalene                   |        |             | < 0.030 |           | ug/g  |     | 0.03   | 29-AUG-19 |
| Acenaphthene                          |        |             | <0.050  |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Acenaphthylene                        |        |             | <0.050  |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Anthracene                            |        |             | <0.050  |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Benzo(a)anthracene                    |        |             | <0.050  |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Benzo(a)pyrene                        |        |             | <0.050  |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Benzo(b)fluoranthene                  |        |             | <0.050  |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Benzo(g,h,i)perylene                  |        |             | <0.050  |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Benzo(k)fluoranthene                  |        |             | < 0.050 |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Chrysene                              |        |             | < 0.050 |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Dibenzo(ah)anthracene                 |        |             | <0.050  |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Fluoranthene                          |        |             | < 0.050 |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Fluorene                              |        |             | <0.050  |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Indeno(1,2,3-cd)pyrene                |        |             | < 0.050 |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Naphthalene                           |        |             | <0.013  |           | ug/g  |     | 0.013  | 29-AUG-19 |
| Phenanthrene                          |        |             | <0.046  |           | ug/g  |     | 0.046  | 29-AUG-19 |
| Pyrene                                |        |             | < 0.050 |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Surrogate: 2-Fluorobiphe              | enyl   |             | 96.9    |           | %     |     | 50-140 | 29-AUG-19 |
| Surrogate: p-Terphenyl o              | d14    |             | 86.7    |           | %     |     | 50-140 | 29-AUG-19 |
| WG3141307-4 MS                        |        | WG3141307-5 | 5       |           |       |     |        |           |
| 1-Methylnaphthalene                   |        |             | 100.8   |           | %     |     | 50-140 | 29-AUG-19 |
| 2-Methylnaphthalene                   |        |             | 95.2    |           | %     |     | 50-140 | 29-AUG-19 |
| Acenaphthene                          |        |             | 102.7   |           | %     |     | 50-140 | 29-AUG-19 |
| Acenaphthylene                        |        |             | 101.6   |           | %     |     | 50-140 | 29-AUG-19 |
| Anthracene                            |        |             | 99.6    |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(a)anthracene                    |        |             | 101.0   |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(a)pyrene                        |        |             | 96.3    |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(b)fluoranthene                  |        |             | 109.4   |           | %     |     | 50-140 | 29-AUG-19 |
|                                       |        |             |         |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                          | Matrix | Reference              | Result       | Qualifier | Units    | RPD  | Limit   | Analyzed   |
|-------------------------------|--------|------------------------|--------------|-----------|----------|------|---------|------------|
| PAH-511-WT                    | Soil   |                        |              |           |          |      |         |            |
| Batch R4775768                |        |                        |              |           |          |      |         |            |
| WG3141307-4 MS                |        | WG3141307-5            |              |           | 0.4      |      |         |            |
| Benzo(g,h,i)perylene          |        |                        | 89.8         |           | %        |      | 50-140  | 29-AUG-19  |
| Benzo(k)fluoranthene          |        |                        | 91.8         |           | %        |      | 50-140  | 29-AUG-19  |
| Chrysene                      |        |                        | 106.8        |           | %        |      | 50-140  | 29-AUG-19  |
| Dibenzo(ah)anthracene         |        |                        | 89.5         |           | %        |      | 50-140  | 29-AUG-19  |
| Fluoranthene                  |        |                        | 99.5         |           | %        |      | 50-140  | 29-AUG-19  |
| Fluorene                      |        |                        | 99.5         |           | %        |      | 50-140  | 29-AUG-19  |
| Indeno(1,2,3-cd)pyrene        |        |                        | 87.8         |           | %        |      | 50-140  | 29-AUG-19  |
| Naphthalene                   |        |                        | 99.2         |           | %        |      | 50-140  | 29-AUG-19  |
| Phenanthrene                  |        |                        | 102.0        |           | %        |      | 50-140  | 29-AUG-19  |
| Pyrene                        |        |                        | 99.6         |           | %        |      | 50-140  | 29-AUG-19  |
| PH-WT                         | Soil   |                        |              |           |          |      |         |            |
| Batch R4769711                |        |                        |              |           |          |      |         |            |
| WG3143009-1 DUP               |        | L2334162-2             |              |           |          |      |         |            |
| рН                            |        | 7.76                   | 7.80         | J         | pH units | 0.04 | 0.3     | 27-AUG-19  |
| WG3144243-1 LCS               |        |                        | 6.00         |           | nH unito |      | 0074    | 07.4110.40 |
| рН                            |        |                        | 6.99         |           | pH units |      | 6.9-7.1 | 27-AUG-19  |
| Batch R4777491                |        |                        |              |           |          |      |         |            |
| <b>WG3144422-1 DUP</b><br>pH  |        | <b>L2334863-9</b> 6.58 | 6.29         | J         | pH units | 0.29 | 0.3     | 29-AUG-19  |
| WG3146779-1 LCS               |        | 0.00                   | 0.20         | J         | pr. a.me | 0.23 | 0.5     | 29-700-19  |
| pH                            |        |                        | 6.96         |           | pH units |      | 6.9-7.1 | 29-AUG-19  |
| SAR-R511-WT                   | Soil   |                        |              |           |          |      |         |            |
| Batch R4778088                | 3011   |                        |              |           |          |      |         |            |
| WG3147952-4 DUP               |        | WG3147952-3            |              |           |          |      |         |            |
| Calcium (Ca)                  |        | 30.4                   | 27.9         |           | mg/L     | 8.6  | 30      | 30-AUG-19  |
| Sodium (Na)                   |        | 13.6                   | 14.0         |           | mg/L     | 2.9  | 30      | 30-AUG-19  |
| Magnesium (Mg)                |        | 1.65                   | 1.55         |           | mg/L     | 6.3  | 30      | 30-AUG-19  |
| WG3147952-2 IRM               |        | WT SAR3                |              |           |          |      |         |            |
| Calcium (Ca)                  |        |                        | 94.9         |           | %        |      | 70-130  | 30-AUG-19  |
| Sodium (Na)                   |        |                        | 107.8        |           | %        |      | 70-130  | 30-AUG-19  |
| Magnesium (Mg)                |        |                        | 97.8         |           | %        |      | 70-130  | 30-AUG-19  |
| WG3147952-5 LCS               |        |                        |              |           |          |      |         |            |
| Calcium (Ca)                  |        |                        | 103.0        |           | %        |      | 70-130  | 30-AUG-19  |
|                               |        |                        |              |           | 0.1      |      |         |            |
| Sodium (Na)<br>Magnesium (Mg) |        |                        | 99.4<br>98.8 |           | %        |      | 70-130  | 30-AUG-19  |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                | Matrix | Reference               | Result         | Qualifier | Units | RPD | Limit  | Analyzed   |
|-------------------------------------|--------|-------------------------|----------------|-----------|-------|-----|--------|------------|
| SAR-R511-WT                         | Soil   |                         |                |           |       |     |        |            |
| Batch R477808<br>WG3147952-1 MB     | 3      |                         |                |           |       |     |        |            |
| Calcium (Ca)                        |        |                         | <0.50          |           | mg/L  |     | 0.5    | 30-AUG-19  |
| Sodium (Na)                         |        |                         | <0.50          |           | mg/L  |     | 0.5    | 30-AUG-19  |
| Magnesium (Mg)                      |        |                         | <0.50          |           | mg/L  |     | 0.5    | 30-AUG-19  |
| Batch R477810                       | 3      |                         |                |           |       |     |        |            |
| <b>WG3147953-4 DUP</b> Calcium (Ca) |        | <b>WG3147953-3</b> 5.33 | 5.77           |           | mg/L  | 7.9 | 30     | 30-AUG-19  |
| Sodium (Na)                         |        | 156                     | 153            |           | mg/L  | 1.9 | 30     | 30-AUG-19  |
| Magnesium (Mg)                      |        | 3.15                    | 4.24           |           | mg/L  | 29  | 30     | 30-AUG-19  |
| WG3147953-2 IRM                     |        | WT SAR3                 |                |           |       |     |        |            |
| Calcium (Ca)                        |        |                         | 87.0           |           | %     |     | 70-130 | 30-AUG-19  |
| Sodium (Na)                         |        |                         | 96.2           |           | %     |     | 70-130 | 30-AUG-19  |
| Magnesium (Mg)                      |        |                         | 91.4           |           | %     |     | 70-130 | 30-AUG-19  |
| WG3147953-5 LCS<br>Calcium (Ca)     |        |                         | 103.7          |           | %     |     | 70-130 | 30-AUG-19  |
| Sodium (Na)                         |        |                         | 99.8           |           | %     |     | 70-130 | 30-AUG-19  |
| Magnesium (Mg)                      |        |                         | 98.8           |           | %     |     | 70-130 | 30-AUG-19  |
| WG3147953-1 MB                      |        |                         |                |           | 4     |     | 0.5    |            |
| Calcium (Ca)                        |        |                         | <0.50          |           | mg/L  |     | 0.5    | 30-AUG-19  |
| Sodium (Na)                         |        |                         | <0.50<br><0.50 |           | mg/L  |     | 0.5    | 30-AUG-19  |
| Magnesium (Mg)                      |        |                         | <0.50          |           | mg/L  |     | 0.5    | 30-AUG-19  |
| Batch R4778723<br>WG3148157-4 DUP   | 3      | WG3148157-3             |                |           |       |     |        |            |
| Calcium (Ca)                        |        | 1.84                    | 1.52           |           | mg/L  | 19  | 30     | 30-AUG-19  |
| Sodium (Na)                         |        | 7.24                    | 6.35           |           | mg/L  | 13  | 30     | 30-AUG-19  |
| Magnesium (Mg)                      |        | 0.55                    | 0.59           |           | mg/L  | 7.0 | 30     | 30-AUG-19  |
| WG3148157-2 IRM<br>Calcium (Ca)     |        | WT SAR3                 | 90.4           |           | %     |     | 70-130 | 30-AUG-19  |
| Sodium (Na)                         |        |                         | 102.4          |           | %     |     | 70-130 | 30-AUG-19  |
| Magnesium (Mg)                      |        |                         | 95.2           |           | %     |     | 70-130 | 30-AUG-19  |
| WG3148157-5 LCS                     |        |                         |                |           | • •   |     |        | 30 7.00-10 |
| Calcium (Ca)                        |        |                         | 109.3          |           | %     |     | 70-130 | 30-AUG-19  |
| Sodium (Na)                         |        |                         | 104.2          |           | %     |     | 70-130 | 30-AUG-19  |
| Magnesium (Mg)                      |        |                         | 103.8          |           | %     |     | 70-130 | 30-AUG-19  |
| WG3148157-1 MB<br>Calcium (Ca)      |        |                         | <0.50          |           | mg/L  |     | 0.5    | 30-AUG-19  |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                             | Matrix | Reference               | Result         | Qualifier | Units        | RPD | Limit      | Analyzed  |
|----------------------------------|--------|-------------------------|----------------|-----------|--------------|-----|------------|-----------|
| SAR-R511-WT                      | Soil   |                         |                |           |              |     |            |           |
| Batch R477872<br>WG3148157-1 MB  | 3      |                         |                |           |              |     |            |           |
| Sodium (Na)                      |        |                         | <0.50          |           | mg/L         |     | 0.5        | 30-AUG-19 |
| Magnesium (Mg)                   |        |                         | <0.50          |           | mg/L         |     | 0.5        | 30-AUG-19 |
| Batch R481592                    |        |                         |                |           |              |     |            |           |
| WG3163992-4 DUP<br>Calcium (Ca)  |        | <b>WG3163992-3</b> 12.8 | 12.5           |           | mg/L         | 2.4 | 30         | 17-SEP-19 |
| Sodium (Na)                      |        | 9.91                    | 8.78           |           | mg/L         | 12  | 30         | 17-SEP-19 |
| Magnesium (Mg)                   |        | 1.26                    | 1.23           |           | mg/L         | 2.4 | 30         | 17-SEP-19 |
| WG3163992-2 IRM                  |        | WT SAR3                 |                |           | -            |     |            |           |
| Calcium (Ca)                     |        |                         | 76.2           |           | %            |     | 70-130     | 17-SEP-19 |
| Sodium (Na)                      |        |                         | 95.4           |           | %            |     | 70-130     | 17-SEP-19 |
| Magnesium (Mg)                   |        |                         | 84.9           |           | %            |     | 70-130     | 17-SEP-19 |
| WG3163992-5 LCS<br>Calcium (Ca)  |        |                         | 106.7          |           | %            |     | 70-130     | 17-SEP-19 |
| Sodium (Na)                      |        |                         | 104.6          |           | %            |     | 70-130     | 17-SEP-19 |
| Magnesium (Mg)                   |        |                         | 105.8          |           | %            |     | 70-130     | 17-SEP-19 |
| WG3163992-1 MB                   |        |                         | 0.50           |           | /l           |     | 0.5        |           |
| Calcium (Ca)                     |        |                         | <0.50          |           | mg/L         |     | 0.5        | 17-SEP-19 |
| Sodium (Na)<br>Magnesium (Mg)    |        |                         | <0.50<br><0.50 |           | mg/L<br>mg/L |     | 0.5<br>0.5 | 17-SEP-19 |
|                                  | _      |                         | <0.50          |           | mg/L         |     | 0.5        | 17-SEP-19 |
| Batch R482361<br>WG3166637-4 DUP |        | WG3166637-3             |                |           |              |     |            |           |
| Calcium (Ca)                     |        | 16.1                    | 15.8           |           | mg/L         | 1.9 | 30         | 19-SEP-19 |
| Sodium (Na)                      |        | 76.8                    | 75.5           |           | mg/L         | 1.7 | 30         | 19-SEP-19 |
| Magnesium (Mg)                   |        | 4.89                    | 4.77           |           | mg/L         | 2.5 | 30         | 19-SEP-19 |
| WG3166637-2 IRM                  |        | WT SAR3                 |                |           |              |     |            |           |
| Calcium (Ca)                     |        |                         | 74.7           |           | %            |     | 70-130     | 19-SEP-19 |
| Sodium (Na)                      |        |                         | 96.2           |           | %            |     | 70-130     | 19-SEP-19 |
| Magnesium (Mg)                   |        |                         | 85.5           |           | %            |     | 70-130     | 19-SEP-19 |
| WG3166637-5 LCS<br>Calcium (Ca)  |        |                         | 104.0          |           | %            |     | 70-130     | 19-SEP-19 |
| Sodium (Na)                      |        |                         | 99.2           |           | %            |     | 70-130     | 19-SEP-19 |
| Magnesium (Mg)                   |        |                         | 103.0          |           | %            |     | 70-130     | 19-SEP-19 |
| WG3166637-1 MB                   |        |                         |                |           |              |     |            |           |
| Calcium (Ca)                     |        |                         | <0.50          |           | mg/L         |     | 0.5        | 19-SEP-19 |
| Sodium (Na)                      |        |                         | <0.50          |           | mg/L         |     | 0.5        | 19-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

|                                                                | Matrix | Reference                  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|----------------------------------------------------------------|--------|----------------------------|--------|-----------|-------|-----|--------|-----------|
| SAR-R511-WT                                                    | Soil   |                            |        |           |       |     |        |           |
| Batch R4823616<br>WG3166637-1 MB<br>Magnesium (Mg)             |        |                            | <0.50  |           | mg/L  |     | 0.5    | 19-SEP-19 |
| Batch R4832793<br>WG3169506-4 DUP<br>Calcium (Ca)              |        | <b>WG3169506-3</b><br>14.4 | 14.0   |           | mg/L  | 2.8 | 30     | 23-SEP-19 |
| Sodium (Na)                                                    |        | 37.5                       | 37.7   |           | mg/L  | 0.5 | 30     | 23-SEP-19 |
| Magnesium (Mg)                                                 |        | 2.63                       | 2.54   |           | mg/L  | 3.5 | 30     | 23-SEP-19 |
| WG3169506-2 IRM<br>Calcium (Ca)                                |        | WT SAR3                    | 77.8   |           | %     |     | 70-130 | 23-SEP-19 |
| Sodium (Na)                                                    |        |                            | 100.1  |           | %     |     | 70-130 | 23-SEP-19 |
| Magnesium (Mg)                                                 |        |                            | 89.2   |           | %     |     | 70-130 | 23-SEP-19 |
| WG3169506-5 LCS<br>Calcium (Ca)                                |        |                            | 106.7  |           | %     |     | 70-130 | 23-SEP-19 |
| Sodium (Na)                                                    |        |                            | 102.8  |           | %     |     | 70-130 | 23-SEP-19 |
| Magnesium (Mg)                                                 |        |                            | 105.2  |           | %     |     | 70-130 | 23-SEP-19 |
| <b>WG3169506-1 MB</b> Calcium (Ca)                             |        |                            | <0.50  |           | mg/L  |     | 0.5    | 23-SEP-19 |
| Sodium (Na)                                                    |        |                            | <0.50  |           | mg/L  |     | 0.5    | 23-SEP-19 |
| Magnesium (Mg)                                                 |        |                            | <0.50  |           | mg/L  |     | 0.5    | 23-SEP-19 |
| TOC-R511-WT                                                    | Soil   |                            |        |           |       |     |        |           |
| Batch R4779768<br>WG3149754-3 CRM<br>Total Organic Carbon      |        | WT-TOC-CRM                 | 97.7   |           | %     |     | 70-130 | 01-SEP-19 |
| WG3149754-4 DUP<br>Total Organic Carbon                        |        | <b>L2330748-1</b> <0.10    | <0.10  | RPD-NA    | %     | N/A | 35     | 01-SEP-19 |
| WG3149754-2 LCS Total Organic Carbon                           |        |                            | 104.1  |           | %     |     | 80-120 | 01-SEP-19 |
| Total Organic Carbon                                           |        |                            | 104.1  |           | %     |     | 80-120 | 01-SEP-19 |
| Total Organic Carbon                                           |        |                            | 104.1  |           | %     |     | 80-120 | 01-SEP-19 |
| WG3149754-1 MB Total Organic Carbon                            |        |                            | <0.10  |           | %     |     | 0.1    | 01-SEP-19 |
| VOC-511-HS-WT                                                  | Soil   |                            |        |           |       |     |        |           |
| Batch R4778742<br>WG3145214-4 DUP<br>1,1,1,2-Tetrachloroethand |        | <b>WG3145214-3</b> <0.050  | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 30-AUG-19 |



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72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| VOC-511-HS-WT         Soil           Batch         R4778742           WG3145214-4         DUP         WG3145214-3           1,1,2,2-Tetrachloroethane         <0.050         <0.050         RPD-NA         ug/g           1,1,1-Trichloroethane         <0.050         <0.050         RPD-NA         ug/g           1,1-Dichloroethane         <0.050         <0.050         RPD-NA         ug/g           1,1-Dichloroethylene         <0.050         <0.050         RPD-NA         ug/g           1,2-Dibromoethane         <0.050         <0.050         RPD-NA         ug/g           1,2-Dichlorobenzene         <0.050         <0.050         RPD-NA         ug/g           1,2-Dichloroethane         <0.050         <0.050         RPD-NA         ug/g           1,2-Dichloropropane         <0.050         <0.050         RPD-NA         ug/g | N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WG3145214-4         DUP         WG3145214-3           1,1,2,2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 |
| 1,1,2,2-Tetrachloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 |
| 1,1,1-Trichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 |
| 1,1,2-Trichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19                  |
| 1,1-Dichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19                                                    |
| 1,1-Dichloroethylene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19                                                                     |
| 1,2-Dibromoethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19                                                                                      |
| 1,2-Dichlorobenzene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | N/A 40 30-AUG-19 N/A 40 30-AUG-19 N/A 40 30-AUG-19                                                                                                                        |
| 1,2-Dichloroethane <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | N/A 40 30-AUG-19<br>N/A 40 30-AUG-19                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | N/A 40 30-AUG-19                                                                                                                                                          |
| 1.2-Dichloropropage <0.050 <0.050 PDD NA Ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | N/A 40 30-AUG-19                                                                                                                                                          |
| 1,3-Dichlorobenzene <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                           |
| 1,4-Dichlorobenzene <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N/A 40 30-AUG-19                                                                                                                                                          |
| Acetone <0.50 <0.50 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | N/A 40 30-AUG-19                                                                                                                                                          |
| Benzene <0.0068 <0.0068 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | N/A 40 30-AUG-19                                                                                                                                                          |
| Bromodichloromethane <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N/A 40 30-AUG-19                                                                                                                                                          |
| Bromoform <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | N/A 40 30-AUG-19                                                                                                                                                          |
| Bromomethane <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | N/A 40 30-AUG-19                                                                                                                                                          |
| Carbon tetrachloride <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N/A 40 30-AUG-19                                                                                                                                                          |
| Chlorobenzene <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | N/A 40 30-AUG-19                                                                                                                                                          |
| Chloroform <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | N/A 40 30-AUG-19                                                                                                                                                          |
| cis-1,2-Dichloroethylene <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A 40 30-AUG-19                                                                                                                                                          |
| cis-1,3-Dichloropropene <0.030 <0.030 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N/A 40 30-AUG-19                                                                                                                                                          |
| Dibromochloromethane <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N/A 40 30-AUG-19                                                                                                                                                          |
| Dichlorodifluoromethane <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N/A 40 30-AUG-19                                                                                                                                                          |
| Ethylbenzene <0.018 <0.018 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | N/A 40 30-AUG-19                                                                                                                                                          |
| n-Hexane <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A 40 30-AUG-19                                                                                                                                                          |
| Methylene Chloride <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | N/A 40 30-AUG-19                                                                                                                                                          |
| MTBE <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N/A 40 30-AUG-19                                                                                                                                                          |
| m+p-Xylenes <0.030 <0.030 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | N/A 40 30-AUG-19                                                                                                                                                          |
| Methyl Ethyl Ketone <0.50 <0.50 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | N/A 40 30-AUG-19                                                                                                                                                          |
| Methyl Isobutyl Ketone <0.50 <0.50 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N/A 40 30-AUG-19                                                                                                                                                          |
| o-Xylene <0.020 <0.020 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A 40 30-AUG-19                                                                                                                                                          |
| Styrene <0.050 <0.050 RPD-NA ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N/A 40 30-AUG-19                                                                                                                                                          |
| Tetrachloroethylene <0.050 <0.050 ug/g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| No. C-S11-HS-WT   Soil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Test                 | Matrix | Reference | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------|-----------|---------|-----------|-------|-----|--------|-----------|
| WG3145214-1 DUP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | VOC-511-HS-WT        | Soil   |           |         |           |       |     |        |           |
| Tetrachloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Batch R47787         | 742    |           |         |           |       |     |        |           |
| Toluene <0.080 <0.080 RPD-NA U9'9 N/A 40 30-AUG-19 trans-1,2-Dichloroethylene <0.050 <0.050 RPD-NA U9'9 N/A 40 30-AUG-19 trans-1,2-Dichloropropene <0.030 <0.050 RPD-NA U9'9 N/A 40 30-AUG-19 Trichlorofthylene <0.010 <0.010 RPD-NA U9'9 N/A 40 30-AUG-19 Trichlorofthylene <0.050 <0.050 RPD-NA U9'9 N/A 40 30-AUG-19 Trichlorofthuoromethane <0.050 <0.050 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride <0.020 Viryl chloride <0.020 RPD-NA U9'9 N/A 40 30-AUG-19 Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl chloride Viryl c |                      |        |           |         |           | ,     |     |        |           |
| trans-1,2-Dichloroethylene         <0.050         C.0.50         RPD-NA         ug/g         N/A         40         30-AUG-19           trans-1,3-Dichloropropene         <0.030         <0.030         RPD-NA         ug/g         N/A         40         30-AUG-19           Trichloroethylene         <0.010         <0.050         <0.050         RPD-NA         ug/g         N/A         40         30-AUG-19           Virryl chloride         <0.020         <0.020         RPD-NA         ug/g         N/A         40         30-AUG-19           WG3145214-2         LCS         1.1,1.2-Tetrachloroethane         114.0         %         60-130         30-AUG-19           1,1,2-Tetrachloroethane         116.0         %         60-130         30-AUG-19           1,1,1-Trichloroethane         116.3         %         60-130         30-AUG-19           1,1-Dichloroethane         108.0         %         60-130         30-AUG-19           1,1-Dichloroethane         105.9         %         60-130         30-AUG-19           1,2-Dichlorobenzene         104.6         %         70-130         30-AUG-19           1,2-Dichlorobenzene         104.6         %         70-130         30-AUG-19           1,2-Dichlorobenze                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | •                    |        |           |         |           |       |     |        |           |
| trans-1,3-Dichloropropene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |        |           |         |           |       |     |        |           |
| Trichloroethylene         <0.010         <0.010         RPD-NA         ug/g         N/A         40         30-AUG-19           Trichlorofluoromethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ·                    | •      |           |         |           |       |     | 40     |           |
| Trichlorofluoromethane         <0.050         <0.050         RPD-NA         ug/g         N/A         40         30-AUG-19           Vinyl chloride         <0.020         <0.020         RPD-NA         ug/g         N/A         40         30-AUG-19           WG3145214-2         LCS         1.1.2-Tetrachloroethane         114.0         %         60-130         30-AUG-19           1.1,12-Tetrachloroethane         106.0         %         60-130         30-AUG-19           1.1,12-Trichloroethane         108.0         %         60-130         30-AUG-19           1.1-Dichloroethane         105.9         %         60-130         30-AUG-19           1.1-Dichloroethylene         107.2         %         60-130         30-AUG-19           1.2-Dichlorobenzene         108.5         %         70-130         30-AUG-19           1.2-Dichlorobenzene         104.6         %         70-130         30-AUG-19           1.2-Dichloropropane         104.7         %         70-130         30-AUG-19           1.2-Dichloropropane         104.7         %         70-130         30-AUG-19           1.2-Dichloropropane         101.6         %         70-130         30-AUG-19           Acetone         123.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | •                    | opene  |           |         |           |       |     | 40     | 30-AUG-19 |
| Viryl chloride         <0.020         RPD-NA         ug/g         N/A         40         30-AUG-19           WG3145214-2 LCS         1.1,1,2-Tetrachloroethane         114.0         %         60-130         30-AUG-19           1.1,1,2-Tetrachloroethane         106.0         %         60-130         30-AUG-19           1.1,1-Trichloroethane         108.0         %         60-130         30-AUG-19           1,1-Dichloroethane         105.9         %         60-130         30-AUG-19           1,1-Dichloroethane         105.9         %         60-130         30-AUG-19           1,1-Dichloroethane         105.9         %         60-130         30-AUG-19           1,2-Dichloroethane         108.5         %         70-130         30-AUG-19           1,2-Dichloroethane         104.6         %         70-130         30-AUG-19           1,2-Dichloropenzene         104.7         %         60-130         30-AUG-19           1,2-Dichloropenzene         104.7         %         70-130         30-AUG-19           1,3-Dichlorobenzene         101.6         %         70-130         30-AUG-19           1,4-Dichlorobenzene         101.2         %         70-130         30-AUG-19           2,5-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | •                    |        | <0.010    | <0.010  | RPD-NA    | ug/g  | N/A | 40     | 30-AUG-19 |
| WG3145214-2 LCS         1.1.1.2-Tetrachloroethane         114.0         %         60-130         30-AUG-19           1.1.1.2-Tetrachloroethane         106.0         %         60-130         30-AUG-19           1.1.1.2-Trichloroethane         116.3         %         60-130         30-AUG-19           1.1.1.2-Trichloroethane         108.0         %         60-130         30-AUG-19           1.1.1.2-Dichloroethane         105.9         %         60-130         30-AUG-19           1.1.1.2-Dichloroethane         107.2         %         60-130         30-AUG-19           1.2-Dichloroethane         108.5         %         70-130         30-AUG-19           1.2-Dichlorobenzene         104.6         %         70-130         30-AUG-19           1.2-Dichloroethane         116.1         %         60-130         30-AUG-19           1.2-Dichloroethane         116.1         %         60-130         30-AUG-19           1.2-Dichloroethane         104.7         %         70-130         30-AUG-19           1.2-Dichloroethane         104.6         %         70-130         30-AUG-19           1.2-Dichloroethane         104.6         %         70-130         30-AUG-19           1.2-Dichloroethane         <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Trichlorofluorometha | ane    | <0.050    | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 30-AUG-19 |
| 1,1,1,2-Tetrachloroethane       114.0       %       60-130       30-AUG-19         1,1,2,2-Tetrachloroethane       106.0       %       60-130       30-AUG-19         1,1,1-Trichloroethane       116.3       %       60-130       30-AUG-19         1,1,2-Trichloroethane       108.0       %       60-130       30-AUG-19         1,1-Dichloroethane       105.9       %       60-130       30-AUG-19         1,1-Dichloroethylene       107.2       %       60-130       30-AUG-19         1,2-Dibromoethane       108.5       %       70-130       30-AUG-19         1,2-Dichloroethane       116.1       %       60-130       30-AUG-19         1,2-Dichloroethane       116.1       %       60-130       30-AUG-19         1,2-Dichloroethane       116.1       %       70-130       30-AUG-19         1,2-Dichloroethane       104.7       %       70-130       30-AUG-19         1,2-Dichloroethane       104.7       %       70-130       30-AUG-19         1,2-Dichloroethylene       101.6       %       70-130       30-AUG-19         1,4-Dichloroethylene       101.6       %       70-130       30-AUG-19         1,4-Dichloroethylene       105.5       %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vinyl chloride       |        | <0.020    | <0.020  | RPD-NA    | ug/g  | N/A | 40     | 30-AUG-19 |
| 1,1,2,2-Tetrachloroethane       106.0       %       60-130       30-AUG-19         1,1,1-Trichloroethane       116.3       %       60-130       30-AUG-19         1,1,2-Trichloroethane       108.0       %       60-130       30-AUG-19         1,1-Dichloroethane       105.9       %       60-130       30-AUG-19         1,1-Dichloroethylene       107.2       %       60-130       30-AUG-19         1,2-Dibrhoroethane       108.5       %       70-130       30-AUG-19         1,2-Dichlorobenzene       104.6       %       70-130       30-AUG-19         1,2-Dichloroptopane       104.7       %       60-130       30-AUG-19         1,2-Dichloroptopane       104.7       %       60-130       30-AUG-19         1,3-Dichlorobenzene       101.6       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |        |           | 114.0   |           | %     |     | 60-130 | 30-AUG-19 |
| 1,1,1-Trichloroethane       116.3       %       60-130       30-AUG-19         1,1,2-Trichloroethane       108.0       %       60-130       30-AUG-19         1,1-Dichloroethane       105.9       %       60-130       30-AUG-19         1,1-Dichloroethylene       107.2       %       60-130       30-AUG-19         1,2-Dibromoethane       108.5       %       70-130       30-AUG-19         1,2-Dichlorobenzene       104.6       %       70-130       30-AUG-19         1,2-Dichloroptopane       104.7       %       70-130       30-AUG-19         1,3-Dichloroptopane       104.7       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.6       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromomethane       98.1       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,1,2,2-Tetrachloroe | ethane |           | 106.0   |           | %     |     |        |           |
| 1,1,2-Trichloroethane       108.0       %       60-130       30-AUG-19         1,1-Dichloroethane       105.9       %       60-130       30-AUG-19         1,1-Dichloroethylene       107.2       %       60-130       30-AUG-19         1,2-Dibromoethane       108.5       %       70-130       30-AUG-19         1,2-Dichlorobenzene       104.6       %       70-130       30-AUG-19         1,2-Dichloropenzene       116.1       %       60-130       30-AUG-19         1,2-Dichloropenzene       104.7       %       70-130       30-AUG-19         1,2-Dichloropenzene       101.6       %       70-130       30-AUG-19         1,3-Dichlorobenzene       101.6       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,1,1-Trichloroethan | ne     |           | 116.3   |           | %     |     |        |           |
| 1,1-Dichloroethane       105.9       %       60-130       30-AUG-19         1,1-Dichloroethylene       107.2       %       60-130       30-AUG-19         1,2-Dibromoethane       108.5       %       70-130       30-AUG-19         1,2-Dichlorobenzene       104.6       %       70-130       30-AUG-19         1,2-Dichloroethane       116.1       %       60-130       30-AUG-19         1,2-Dichloropropane       104.7       %       70-130       30-AUG-19         1,3-Dichlorobenzene       101.6       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,1,2-Trichloroethan | ne     |           | 108.0   |           | %     |     |        |           |
| 1,1-Dichloroethylene       107.2       %       60-130       30-AUG-19         1,2-Dibromoethane       108.5       %       70-130       30-AUG-19         1,2-Dichlorobenzene       104.6       %       70-130       30-AUG-19         1,2-Dichloroethane       116.1       %       60-130       30-AUG-19         1,2-Dichloropropane       104.7       %       70-130       30-AUG-19         1,3-Dichlorobenzene       101.6       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       70-130       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         Cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19     <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,1-Dichloroethane   |        |           | 105.9   |           | %     |     |        |           |
| 1,2-Dibromoethane       108.5       %       70-130       30-AUG-19         1,2-Dichlorobenzene       104.6       %       70-130       30-AUG-19         1,2-Dichloroethane       116.1       %       60-130       30-AUG-19         1,2-Dichloropropane       104.7       %       70-130       30-AUG-19         1,3-Dichlorobenzene       101.6       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       70-130       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,1-Dichloroethylene | Э      |           | 107.2   |           | %     |     | 60-130 |           |
| 1,2-Dichloroethane       116.1       %       60-130       30-AUG-19         1,2-Dichloropropane       104.7       %       70-130       30-AUG-19         1,3-Dichlorobenzene       101.6       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19 </td <td>1,2-Dibromoethane</td> <td></td> <td></td> <td>108.5</td> <td></td> <td>%</td> <td></td> <td>70-130</td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,2-Dibromoethane    |        |           | 108.5   |           | %     |     | 70-130 |           |
| 1,2-Dichloropropane       104.7       %       70-130       30-AUG-19         1,3-Dichlorobenzene       101.6       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1,2-Dichlorobenzene  | е      |           | 104.6   |           | %     |     | 70-130 | 30-AUG-19 |
| 1,3-Dichlorobenzene       101.6       %       70-130       30-AUG-19         1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,2-Dichloroethane   |        |           | 116.1   |           | %     |     | 60-130 | 30-AUG-19 |
| 1,4-Dichlorobenzene       101.2       %       70-130       30-AUG-19         Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,2-Dichloropropane  | •      |           | 104.7   |           | %     |     | 70-130 | 30-AUG-19 |
| Acetone       123.4       %       60-140       30-AUG-19         Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1,3-Dichlorobenzene  | е      |           | 101.6   |           | %     |     | 70-130 | 30-AUG-19 |
| Benzene       109.5       %       70-130       30-AUG-19         Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1,4-Dichlorobenzene  | е      |           | 101.2   |           | %     |     | 70-130 | 30-AUG-19 |
| Bromodichloromethane       115.3       %       50-140       30-AUG-19         Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Acetone              |        |           | 123.4   |           | %     |     | 60-140 | 30-AUG-19 |
| Bromoform       116.5       %       70-130       30-AUG-19         Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Benzene              |        |           | 109.5   |           | %     |     | 70-130 | 30-AUG-19 |
| Bromomethane       98.1       %       50-140       30-AUG-19         Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Bromodichlorometha   | ane    |           | 115.3   |           | %     |     | 50-140 | 30-AUG-19 |
| Carbon tetrachloride       120.0       %       70-130       30-AUG-19         Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Bromoform            |        |           | 116.5   |           | %     |     | 70-130 | 30-AUG-19 |
| Chlorobenzene       102.5       %       70-130       30-AUG-19         Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Bromomethane         |        |           | 98.1    |           | %     |     | 50-140 | 30-AUG-19 |
| Chloroform       115.3       %       70-130       30-AUG-19         cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Carbon tetrachloride | e      |           | 120.0   |           | %     |     | 70-130 | 30-AUG-19 |
| cis-1,2-Dichloroethylene       106.8       %       70-130       30-AUG-19         cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Chlorobenzene        |        |           | 102.5   |           | %     |     | 70-130 | 30-AUG-19 |
| cis-1,3-Dichloropropene       98.2       %       70-130       30-AUG-19         Dibromochloromethane       112.7       %       60-130       30-AUG-19         Dichlorodifluoromethane       79.6       %       50-140       30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Chloroform           |        |           | 115.3   |           | %     |     | 70-130 | 30-AUG-19 |
| Dibromochloromethane         112.7         %         60-130         30-AUG-19           Dichlorodifluoromethane         79.6         %         50-140         30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | cis-1,2-Dichloroethy | lene   |           | 106.8   |           | %     |     | 70-130 | 30-AUG-19 |
| Dichlorodifluoromethane 79.6 % 50-140 30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | cis-1,3-Dichloroprop | ene    |           | 98.2    |           | %     |     | 70-130 | 30-AUG-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Dibromochlorometha   | ane    |           | 112.7   |           | %     |     | 60-130 | 30-AUG-19 |
| Ethylbenzene 102.0 % 70-130 30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Dichlorodifluorometh | hane   |           | 79.6    |           | %     |     | 50-140 | 30-AUG-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Ethylbenzene         |        |           | 102.0   |           | %     |     | 70-130 | 30-AUG-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------|-----------|---------|-----------|-------|-----|--------|-----------|
| WG3145214-2 LCS         nHexane         99.5         %         70-130         30-AUG-19           Methylene Chloride         99.2         %         70-130         30-AUG-19           MTBE         109.3         %         70-130         30-AUG-19           m+p-Xylenes         102.9         %         70-130         30-AUG-19           Methyl Ethyl Ketone         106.9         %         60-140         30-AUG-19           Methyl Ethyl Ketone         106.9         %         60-140         30-AUG-19           O-Xylene         103.4         %         70-130         30-AUG-19           Styrene         99.98         %         70-130         30-AUG-19           Tetrachloroethylene         110.9         %         60-130         30-AUG-19           Trobuera         101.9         %         70-130         30-AUG-19           trans-1,2-Dichloroethylene         102.4         %         60-130         30-AUG-19           trans-1,3-Dichloroethylene         106.5         %         60-130         30-AUG-19           Trichloroethylene         108.5         %         60-130         30-AUG-19           Viry Chloride         114.8         %         60-140         30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | VOC-511-HS-WT             | Soil   |           |         |           |       |     |        |           |
| n-Hexane         99.5         %         70-130         30-AUG-19           Methylene Chloride         99.2         %         70-130         30-AUG-19           MTBE         109.3         %         70-130         30-AUG-19           m+p-Xylenes         102.9         %         70-130         30-AUG-19           Methyl Erbyl Ketone         97.1         %         60-140         30-AUG-19           Methyl Isobutyl Ketone         105.9         %         60-140         30-AUG-19           o-Xylene         103.4         %         70-130         30-AUG-19           Styrene         99.98         %         70-130         30-AUG-19           Tetrachloroethylene         110.9         %         60-130         30-AUG-19           Toluene         101.9         %         60-130         30-AUG-19           trans-1,2-Dichloroethylene         102.4         %         60-130         30-AUG-19           trans-1,2-Dichloropropene         94.5         %         60-130         30-AUG-19           Trichlorothylene         106.5         %         60-130         30-AUG-19           Vinyl chloride         114.8         %         60-130         30-AUG-19           Vin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Batch R4778742            |        |           |         |           |       |     |        |           |
| Methylene Chloride         99.2         %         70-130         30-AUG-19           MTBE         109.3         %         70-130         30-AUG-19           m+p-Xylenes         102.9         %         70-130         30-AUG-19           Methyl Ethyl Ketone         97.1         %         60-140         30-AUG-19           Methyl Isobutyl Ketone         105.9         %         60-140         30-AUG-19           Styrene         99.98         %         70-130         30-AUG-19           Styrene         99.98         %         70-130         30-AUG-19           Tetrachlorethylene         110.9         %         60-130         30-AUG-19           Toluene         101.9         %         60-130         30-AUG-19           trans-1,2-Dichloropthylene         102.4         %         60-130         30-AUG-19           trans-1,3-Dichloroptopene         94.5         %         60-130         30-AUG-19           Trichlorofluoromethane         118.9         %         60-140         30-AUG-19           Trichlorofluoromethane         118.9         %         60-140         30-AUG-19           Ti,1,2-Tertachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |        |           | 22.5    |           | 0/    |     |        |           |
| MTBE         109.3         %         70-130         30-AUG-19           mtp-Xylenes         102.9         %         70-130         30-AUG-19           Methyl Ethyl Ketone         97.1         %         60-140         30-AUG-19           Methyl Isobutyl Ketone         105.9         %         60-140         30-AUG-19           c-Xylene         103.4         %         70-130         30-AUG-19           Styrene         99.98         %         70-130         30-AUG-19           Tetrachloroethylene         110.9         %         60-130         30-AUG-19           Toluene         101.9         %         60-130         30-AUG-19           trans-1,3-Dichloropthylene         102.4         %         60-130         30-AUG-19           trans-1,3-Dichloroptopane         94.5         %         60-130         30-AUG-19           trans-1,3-Dichloroptopane         118.9         %         60-140         30-AUG-19           Trichloroflucromethane         118.9         %         60-140         30-AUG-19           Trichloroflucromethane         114.8         %         60-140         30-AUG-19           1,1,2-Tetrachloroethane          0.050         ug/g         0.05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |        |           |         |           |       |     |        |           |
| m+p-Xylenes         102.9         %         70-130         30-AUG-19           Methyl Ethyl Katone         97.1         %         60-140         30-AUG-19           Methyl Isobutyl Ketone         105.9         %         60-140         30-AUG-19           OxYlene         103.4         %         70-130         30-AUG-19           Styrene         99.98         %         70-130         30-AUG-19           Tetrachloroethylene         110.9         %         60-130         30-AUG-19           Toluene         101.9         %         70-130         30-AUG-19           trans-1,2-Dichloroethylene         102.4         %         60-130         30-AUG-19           trans-1,2-Dichloropropene         94.5         %         70-130         30-AUG-19           Trichloroethylene         106.5         %         60-130         30-AUG-19           Trichloroethylene         118.9         %         50-140         30-AUG-19           Trichloroethane         118.9         %         50-140         30-AUG-19           Trichloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | •                         |        |           |         |           |       |     |        |           |
| Methyl Ethyl Ketone         97.1         %         60-140         30-AUG-19           Methyl Isobutyl Ketone         105.9         %         60-140         30-AUG-19           o-Vylene         103.4         %         70-130         30-AUG-19           Styrene         99.98         %         70-130         30-AUG-19           Tetrachloroethylene         110.9         %         60-130         30-AUG-19           Toluene         101.9         %         60-130         30-AUG-19           trans-1,2-Dichloropthylene         102.4         %         60-130         30-AUG-19           trans-1,3-Dichloroptopene         94.5         %         60-130         30-AUG-19           Trichlorothylene         106.5         %         60-130         30-AUG-19           Trichlorothylene         118.9         %         50-140         30-AUG-19           Trichlorothylene         118.9         %         50-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           Trichlorothane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                           |        |           |         |           |       |     |        |           |
| Methyl Isobutyl Ketone         105.9         %         60-140         30-AUG-19           o-Xylene         103.4         %         70-130         30-AUG-19           Styrene         99.98         %         70-130         30-AUG-19           Tetrachloroethylene         110.9         %         60-130         30-AUG-19           Toluene         101.9         %         70-130         30-AUG-19           trans-1,2-Dichloroethylene         102.4         %         60-130         30-AUG-19           trans-1,3-Dichloropropene         94.5         %         70-130         30-AUG-19           Trichlorofluoromethane         118.9         %         50-140         30-AUG-19           Trichlorofluoromethane         118.9         %         50-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           1,1,12-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |        |           |         |           |       |     |        |           |
| o-Xylene         103.4         %         70-130         30-AUG-19           Styrene         99.98         %         70-130         30-AUG-19           Tetrachloroethylene         110.9         %         60-130         30-AUG-19           Toluene         101.9         %         60-130         30-AUG-19           trans-1,2-Dichloroethylene         102.4         %         60-130         30-AUG-19           trans-1,3-Dichloropropene         94.5         %         70-130         30-AUG-19           Trichlorofluoromethane         118.9         %         60-130         30-AUG-19           Trichlorofluoromethane         118.9         %         50-140         30-AUG-19           Vinyl chloride         114.8         %         60-130         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           Vinyl chloride         10.5         4         60-140         30-AUG-19           1,1,12-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           |        |           |         |           |       |     |        |           |
| Styrene         99.98         %         70.130         30.AUG-19           Tetrachloroethylene         110.9         %         60-130         30.AUG-19           Toluene         101.9         %         70-130         30.AUG-19           trans-1,2-Dichloroethylene         102.4         %         60-130         30.AUG-19           trans-1,3-Dichloropropene         94.5         %         70-130         30.AUG-19           Trichloroethylene         108.5         %         60-130         30.AUG-19           Trichlorofluoromethane         118.9         %         50-140         30.AUG-19           Vinyl chloride         114.8         %         60-140         30.AUG-19           Vinyl chloride         114.8         %         60-140         30.AUG-19           Vinyl chloride         114.8         %         60-140         30.AUG-19           WG3145214-1         MB         N.1,1,2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | •                         |        |           |         |           |       |     | 60-140 | 30-AUG-19 |
| Tetrachloroethylene         110.9         %         60-130         30-AUG-19           Toluene         101.9         %         70-130         30-AUG-19           trans-1,2-Dichloroethylene         102.4         %         60-130         30-AUG-19           trans-1,3-Dichloropropene         94.5         %         70-130         30-AUG-19           Trichloroethylene         106.5         %         60-130         30-AUG-19           Trichlorofluoromethane         118.9         %         50-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           WG3145214-1         MB         1,1,1-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | •                         |        |           |         |           |       |     | 70-130 | 30-AUG-19 |
| Toluene         101.9         %         70.130         30.AUG-19           trans-1,2-Dichloroethylene         102.4         %         60-130         30.AUG-19           trans-1,3-Dichloropropene         94.5         %         70-130         30.AUG-19           Trichlorotethylene         106.5         %         60-130         30.AUG-19           Trichlorofluoromethane         118.9         %         50-140         30.AUG-19           Vinyl chloride         114.8         %         60-140         30.AUG-19           Vinyl chloride         114.8         %         60-140         30.AUG-19           Vinyl chloride         114.8         %         60-140         30.AUG-19           Vinyl chloride         14.8         %         60-140         30.AUG-19           1,1-2-Trichloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | •                         |        |           |         |           |       |     | 70-130 | 30-AUG-19 |
| trans-1,2-Dichloroethylene         102.4         %         60-130         30-AUG-19           trans-1,3-Dichloropropene         94.5         %         70-130         30-AUG-19           Trichlorotethylene         106.5         %         60-130         30-AUG-19           Trichlorofluoromethane         118.9         %         50-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           WG3145214-1         MB         1,1,2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | •                         |        |           | 110.9   |           |       |     | 60-130 | 30-AUG-19 |
| trans-1,3-Dichloropropene         94.5         %         70-130         30-AUG-19           Trichloroethylene         106.5         %         60-130         30-AUG-19           Trichlorofluoromethane         118.9         %         50-140         30-AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           WG3145214-1         MB           1,1,2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Toluene                   |        |           | 101.9   |           |       |     | 70-130 | 30-AUG-19 |
| Trichloroethylene         106.5         %         60.130         30.AUG-19           Trichlorofluoromethane         118.9         %         50.140         30.AUG-19           Vinyl chloride         114.8         %         60-140         30.AUG-19           WG3145214-1         MB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | trans-1,2-Dichloroethyler | ne     |           | 102.4   |           |       |     | 60-130 | 30-AUG-19 |
| Trichlorofluoromethane         118.9         %         50.140         30.AUG-19           Vinyl chloride         114.8         %         60-140         30-AUG-19           WG3145214-1         MB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | trans-1,3-Dichloropropen  | е      |           | 94.5    |           | %     |     | 70-130 | 30-AUG-19 |
| Vinyl chloride         114.8         %         60-140         30-AUG-19           WG3145214-1         MB         Vinyl chloride         40.050         ug/g         0.05         30-AUG-19           1,1,2,2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Trichloroethylene         |        |           | 106.5   |           | %     |     | 60-130 | 30-AUG-19 |
| WG3145214-1         MB           1,1,1,2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Trichlorofluoromethane    |        |           | 118.9   |           | %     |     | 50-140 | 30-AUG-19 |
| 1,1,1,2-Tetrachloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Vinyl chloride            |        |           | 114.8   |           | %     |     | 60-140 | 30-AUG-19 |
| 1,1,2,2-Tetrachloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |        |           |         |           | ,     |     |        |           |
| 1,1,1-Trichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |        |           |         |           |       |     |        |           |
| 1,1,2-Trichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           | е      |           |         |           |       |     |        |           |
| 1,1-Dichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |        |           |         |           |       |     |        |           |
| 1,1-Dichloroethylene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |        |           |         |           |       |     |        | 30-AUG-19 |
| 1,2-Dibromoethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |        |           |         |           | ug/g  |     |        | 30-AUG-19 |
| 1,2-Dichlorobenzene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,1-Dichloroethylene      |        |           | <0.050  |           | ug/g  |     | 0.05   | 30-AUG-19 |
| 1,2-Dichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,2-Dibromoethane         |        |           | <0.050  |           | ug/g  |     | 0.05   | 30-AUG-19 |
| 1,2-Dichloropropane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,2-Dichlorobenzene       |        |           | <0.050  |           | ug/g  |     | 0.05   | 30-AUG-19 |
| 1,3-Dichlorobenzene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,2-Dichloroethane        |        |           | < 0.050 |           | ug/g  |     | 0.05   | 30-AUG-19 |
| 1,4-Dichlorobenzene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,2-Dichloropropane       |        |           | < 0.050 |           | ug/g  |     | 0.05   | 30-AUG-19 |
| Acetone       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,3-Dichlorobenzene       |        |           | < 0.050 |           | ug/g  |     | 0.05   | 30-AUG-19 |
| Benzene         <0.0068                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1,4-Dichlorobenzene       |        |           | < 0.050 |           | ug/g  |     | 0.05   | 30-AUG-19 |
| Bromodichloromethane         <0.050         ug/g         0.05         30-AUG-19           Bromoform         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Acetone                   |        |           | <0.50   |           | ug/g  |     | 0.5    | 30-AUG-19 |
| Bromoform         <0.050         ug/g         0.05         30-AUG-19           Bromomethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Benzene                   |        |           | <0.0068 |           | ug/g  |     | 0.0068 | 30-AUG-19 |
| Bromomethane <0.050 ug/g 0.05 30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Bromodichloromethane      |        |           | <0.050  |           | ug/g  |     | 0.05   | 30-AUG-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Bromoform                 |        |           | <0.050  |           | ug/g  |     | 0.05   | 30-AUG-19 |
| Carbon tetrachloride <0.050 ug/g 0.05 30-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Bromomethane              |        |           | <0.050  |           | ug/g  |     | 0.05   | 30-AUG-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Carbon tetrachloride      |        |           | <0.050  |           | ug/g  |     | 0.05   | 30-AUG-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                       | Matrix  | Reference  | Result  | Qualifier | Units | RPD | Limit     | Analyzed   |
|----------------------------|---------|------------|---------|-----------|-------|-----|-----------|------------|
| VOC-511-HS-WT              | Soil    |            |         |           |       |     |           |            |
| Batch R4778742             |         |            |         |           |       |     |           |            |
| WG3145214-1 MB             |         |            | 0.050   |           |       |     | 0.05      |            |
| Chlorobenzene              |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| Chloroform                 |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| cis-1,2-Dichloroethylene   |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| cis-1,3-Dichloropropene    |         |            | <0.030  |           | ug/g  |     | 0.03      | 30-AUG-19  |
| Dibromochloromethane       |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| Dichlorodifluoromethane    |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| Ethylbenzene               |         |            | <0.018  |           | ug/g  |     | 0.018     | 30-AUG-19  |
| n-Hexane                   |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| Methylene Chloride         |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| MTBE                       |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| m+p-Xylenes                |         |            | <0.030  |           | ug/g  |     | 0.03      | 30-AUG-19  |
| Methyl Ethyl Ketone        |         |            | <0.50   |           | ug/g  |     | 0.5       | 30-AUG-19  |
| Methyl Isobutyl Ketone     |         |            | <0.50   |           | ug/g  |     | 0.5       | 30-AUG-19  |
| o-Xylene                   |         |            | <0.020  |           | ug/g  |     | 0.02      | 30-AUG-19  |
| Styrene                    |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| Tetrachloroethylene        |         |            | <0.050  |           | ug/g  |     | 0.05      | 30-AUG-19  |
| Toluene                    |         |            | <0.080  |           | ug/g  |     | 0.08      | 30-AUG-19  |
| trans-1,2-Dichloroethylene | е       |            | < 0.050 |           | ug/g  |     | 0.05      | 30-AUG-19  |
| trans-1,3-Dichloropropene  | е       |            | < 0.030 |           | ug/g  |     | 0.03      | 30-AUG-19  |
| Trichloroethylene          |         |            | <0.010  |           | ug/g  |     | 0.01      | 30-AUG-19  |
| Trichlorofluoromethane     |         |            | < 0.050 |           | ug/g  |     | 0.05      | 30-AUG-19  |
| Vinyl chloride             |         |            | <0.020  |           | ug/g  |     | 0.02      | 30-AUG-19  |
| Surrogate: 1,4-Difluorobe  | enzene  |            | 116.1   |           | %     |     | 50-140    | 30-AUG-19  |
| Surrogate: 4-Bromofluoro   | benzene |            | 100.2   |           | %     |     | 50-140    | 30-AUG-19  |
| WG3145214-5 MS             | ^       | L2334358-1 | 104.0   |           | 0/    |     | <b>50</b> | 04 4110 15 |
| 1,1,1,2-Tetrachloroethane  |         |            | 104.2   |           | %     |     | 50-140    | 31-AUG-19  |
| 1,1,2,2-Tetrachloroethane  | 9       |            | 95.8    |           | %     |     | 50-140    | 31-AUG-19  |
| 1,1,1-Trichloroethane      |         |            | 112.4   |           | %     |     | 50-140    | 31-AUG-19  |
| 1,1,2-Trichloroethane      |         |            | 97.9    |           | %     |     | 50-140    | 31-AUG-19  |
| 1,1-Dichloroethane         |         |            | 102.4   |           | %     |     | 50-140    | 31-AUG-19  |
| 1,1-Dichloroethylene       |         |            | 102.5   |           | %     |     | 50-140    | 31-AUG-19  |
| 1,2-Dibromoethane          |         |            | 94.7    |           | %     |     | 50-140    | 31-AUG-19  |
| 1,2-Dichlorobenzene        |         |            | 105.6   |           | %     |     | 50-140    | 31-AUG-19  |
| 1,2-Dichloroethane         |         |            | 100.4   |           | %     |     | 50-140    | 31-AUG-19  |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                     | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT            | Soil   |            |        |           |       |     |        |           |
| Batch R4778742           |        |            |        |           |       |     |        |           |
| WG3145214-5 MS           |        | L2334358-1 | 405.0  |           | 0/    |     |        | <b>-</b>  |
| 1,2-Dichloropropane      |        |            | 105.0  |           | %     |     | 50-140 | 31-AUG-19 |
| 1,3-Dichlorobenzene      |        |            | 104.4  |           | %     |     | 50-140 | 31-AUG-19 |
| 1,4-Dichlorobenzene      |        |            | 106.4  |           | %     |     | 50-140 | 31-AUG-19 |
| Acetone                  |        |            | 90.0   |           | %     |     | 50-140 | 31-AUG-19 |
| Benzene                  |        |            | 110.8  |           | %     |     | 50-140 | 31-AUG-19 |
| Bromodichloromethane     |        |            | 109.2  |           | %     |     | 50-140 | 31-AUG-19 |
| Bromoform                |        |            | 102.3  |           | %     |     | 50-140 | 31-AUG-19 |
| Bromomethane             |        |            | 90.3   |           | %     |     | 50-140 | 31-AUG-19 |
| Carbon tetrachloride     |        |            | 117.5  |           | %     |     | 50-140 | 31-AUG-19 |
| Chlorobenzene            |        |            | 106.3  |           | %     |     | 50-140 | 31-AUG-19 |
| Chloroform               |        |            | 109.6  |           | %     |     | 50-140 | 31-AUG-19 |
| cis-1,2-Dichloroethylene |        |            | 102.6  |           | %     |     | 50-140 | 31-AUG-19 |
| cis-1,3-Dichloropropene  |        |            | 94.3   |           | %     |     | 50-140 | 31-AUG-19 |
| Dibromochloromethane     |        |            | 98.9   |           | %     |     | 50-140 | 31-AUG-19 |
| Dichlorodifluoromethane  | )      |            | 87.5   |           | %     |     | 50-140 | 31-AUG-19 |
| Ethylbenzene             |        |            | 98.8   |           | %     |     | 50-140 | 31-AUG-19 |
| n-Hexane                 |        |            | 96.0   |           | %     |     | 50-140 | 31-AUG-19 |
| Methylene Chloride       |        |            | 104.1  |           | %     |     | 50-140 | 31-AUG-19 |
| MTBE                     |        |            | 105.5  |           | %     |     | 50-140 | 31-AUG-19 |
| m+p-Xylenes              |        |            | 102.4  |           | %     |     | 50-140 | 31-AUG-19 |
| Methyl Ethyl Ketone      |        |            | 79.9   |           | %     |     | 50-140 | 31-AUG-19 |
| Methyl Isobutyl Ketone   |        |            | 81.7   |           | %     |     | 50-140 | 31-AUG-19 |
| o-Xylene                 |        |            | 98.4   |           | %     |     | 50-140 | 31-AUG-19 |
| Styrene                  |        |            | 99.7   |           | %     |     | 50-140 | 31-AUG-19 |
| Tetrachloroethylene      |        |            | 107.5  |           | %     |     | 50-140 | 31-AUG-19 |
| Toluene                  |        |            | 102.7  |           | %     |     | 50-140 | 31-AUG-19 |
| trans-1,2-Dichloroethyle | ne     |            | 101.3  |           | %     |     | 50-140 | 31-AUG-19 |
| trans-1,3-Dichloroproper | ne     |            | 83.3   |           | %     |     | 50-140 | 31-AUG-19 |
| Trichloroethylene        |        |            | 114.5  |           | %     |     | 50-140 | 31-AUG-19 |
| Trichlorofluoromethane   |        |            | 110.6  |           | %     |     | 50-140 | 31-AUG-19 |
| Vinyl chloride           |        |            | 108.7  |           | %     |     | 50-140 | 31-AUG-19 |
| -                        |        |            |        |           |       |     | -      | -         |



Contact:

# **Quality Control Report**

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CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Andrew Vermeersch

| Test                                      | Matrix | Reference                   | Result          | Qualifier | Units | RPD | Limit | Analyzed  |
|-------------------------------------------|--------|-----------------------------|-----------------|-----------|-------|-----|-------|-----------|
| VOC-511-HS-WT                             | Soil   |                             |                 |           |       |     |       |           |
| Batch R478004                             | 49     |                             |                 |           |       |     |       |           |
| WG3145355-4 DUF<br>1,1,1,2-Tetrachloroetl |        | <b>WG3145355-</b><br><0.050 | <b>3</b> <0.050 | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,1,2,2-Tetrachloroetl                    | hane   | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,1,1-Trichloroethane                     | )      | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,1,2-Trichloroethane                     | )      | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,1-Dichloroethane                        |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,1-Dichloroethylene                      |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,2-Dibromoethane                         |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,2-Dichlorobenzene                       |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,2-Dichloroethane                        |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,2-Dichloropropane                       |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,3-Dichlorobenzene                       |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| 1,4-Dichlorobenzene                       |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Acetone                                   |        | <0.50                       | <0.50           | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Benzene                                   |        | <0.0068                     | <0.0068         | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Bromodichloromethai                       | ne     | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Bromoform                                 |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Bromomethane                              |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Carbon tetrachloride                      |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Chlorobenzene                             |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Chloroform                                |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| cis-1,2-Dichloroethyle                    | ene    | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| cis-1,3-Dichloroprope                     | ene    | <0.030                      | < 0.030         | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Dibromochlorometha                        | ne     | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Dichlorodifluorometha                     | ane    | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Ethylbenzene                              |        | <0.018                      | <0.018          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| n-Hexane                                  |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Methylene Chloride                        |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| MTBE                                      |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| m+p-Xylenes                               |        | <0.030                      | <0.030          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Methyl Ethyl Ketone                       |        | <0.50                       | <0.50           | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Methyl Isobutyl Keton                     | ne     | <0.50                       | <0.50           | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| o-Xylene                                  |        | <0.020                      | <0.020          | RPD-NA    | ug/g  | N/A | 40    | 02-SEP-19 |
| Styrene                                   |        | <0.050                      | <0.050          |           | ug/g  |     |       | 02-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                   | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT          | Soil   |            |        |           |       |     |        |           |
| Batch R478004          | 19     |            |        |           |       |     |        |           |
| WG3145355-4 DUF        | •      | WG3145355- |        |           |       |     |        |           |
| Styrene                |        | <0.050     | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 02-SEP-19 |
| Tetrachloroethylene    |        | <0.050     | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 02-SEP-19 |
| Toluene                |        | <0.080     | <0.080 | RPD-NA    | ug/g  | N/A | 40     | 02-SEP-19 |
| trans-1,2-Dichloroeth  |        | <0.050     | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 02-SEP-19 |
| trans-1,3-Dichloropro  | pene   | <0.030     | <0.030 | RPD-NA    | ug/g  | N/A | 40     | 02-SEP-19 |
| Trichloroethylene      |        | <0.010     | <0.010 | RPD-NA    | ug/g  | N/A | 40     | 02-SEP-19 |
| Trichlorofluoromethar  | ne     | <0.050     | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 02-SEP-19 |
| Vinyl chloride         |        | <0.020     | <0.020 | RPD-NA    | ug/g  | N/A | 40     | 02-SEP-19 |
| WG3145355-2 LCS        |        |            | 96.1   |           | %     |     | 60-130 | 02-SEP-19 |
| 1,1,2,2-Tetrachloroetl |        |            | 101.2  |           | %     |     | 60-130 | 02-SEP-19 |
| 1,1,1-Trichloroethane  |        |            | 99.6   |           | %     |     | 60-130 | 02-SEP-19 |
| 1,1,2-Trichloroethane  |        |            | 98.9   |           | %     |     | 60-130 | 02-SEP-19 |
| 1,1-Dichloroethane     |        |            | 97.7   |           | %     |     | 60-130 | 02-SEP-19 |
| 1,1-Dichloroethylene   |        |            | 92.2   |           | %     |     | 60-130 | 02-SEP-19 |
| 1,2-Dibromoethane      |        |            | 98.7   |           | %     |     | 70-130 | 02-SEP-19 |
| 1,2-Dichlorobenzene    |        |            | 99.8   |           | %     |     | 70-130 | 02-SEP-19 |
| 1,2-Dichloroethane     |        |            | 107.6  |           | %     |     | 60-130 | 02-SEP-19 |
| 1,2-Dichloropropane    |        |            | 104.2  |           | %     |     | 70-130 | 02-SEP-19 |
| 1,3-Dichlorobenzene    |        |            | 96.3   |           | %     |     | 70-130 | 02-SEP-19 |
| 1,4-Dichlorobenzene    |        |            | 100.7  |           | %     |     | 70-130 | 02-SEP-19 |
| Acetone                |        |            | 102.3  |           | %     |     | 60-140 | 02-SEP-19 |
| Benzene                |        |            | 104.4  |           | %     |     | 70-130 | 02-SEP-19 |
| Bromodichloromethai    | ne     |            | 109.5  |           | %     |     | 50-140 | 02-SEP-19 |
| Bromoform              |        |            | 106.8  |           | %     |     | 70-130 | 02-SEP-19 |
| Bromomethane           |        |            | 90.7   |           | %     |     | 50-140 | 02-SEP-19 |
| Carbon tetrachloride   |        |            | 104.1  |           | %     |     | 70-130 | 02-SEP-19 |
| Chlorobenzene          |        |            | 99.0   |           | %     |     | 70-130 | 02-SEP-19 |
| Chloroform             |        |            | 105.1  |           | %     |     | 70-130 | 02-SEP-19 |
| cis-1,2-Dichloroethyle | ene    |            | 99.9   |           | %     |     | 70-130 | 02-SEP-19 |
| cis-1,3-Dichloroprope  | ne     |            | 110.9  |           | %     |     | 70-130 | 02-SEP-19 |
| Dibromochlorometha     | ne     |            | 98.1   |           | %     |     | 60-130 | 02-SEP-19 |
| Dichlorodifluorometha  | ane    |            | 68.8   |           | %     |     | 50-140 | 02-SEP-19 |
|                        |        |            |        |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                       | Matrix   | Reference | Result        | Qualifier | Units | RPD | Limit            | Analyzed               |
|----------------------------|----------|-----------|---------------|-----------|-------|-----|------------------|------------------------|
| VOC-511-HS-WT              | Soil     |           |               |           |       |     |                  |                        |
| Batch R4780049             | )        |           |               |           |       |     |                  |                        |
| WG3145355-2 LCS            |          |           | 07.4          |           | 0/    |     |                  |                        |
| Ethylbenzene<br>n-Hexane   |          |           | 87.4<br>82.2  |           | %     |     | 70-130           | 02-SEP-19              |
|                            |          |           | 62.2<br>104.7 |           | %     |     | 70-130           | 02-SEP-19              |
| Methylene Chloride<br>MTBE |          |           | 104.7         |           | %     |     | 70-130           | 02-SEP-19              |
| m+p-Xylenes                |          |           | 91.3          |           | %     |     | 70-130           | 02-SEP-19              |
| Methyl Ethyl Ketone        |          |           | 101.5         |           | %     |     | 70-130           | 02-SEP-19              |
| Methyl Isobutyl Ketone     |          |           | 101.0         |           | %     |     | 60-140           | 02-SEP-19              |
| o-Xylene                   |          |           | 88.4          |           | %     |     | 60-140<br>70-130 | 02-SEP-19              |
| Styrene                    |          |           | 93.3          |           | %     |     | 70-130<br>70-130 | 02-SEP-19              |
| Tetrachloroethylene        |          |           | 95.7<br>95.7  |           | %     |     | 60-130           | 02-SEP-19<br>02-SEP-19 |
| Toluene                    |          |           | 92.2          |           | %     |     | 70-130           | 02-SEP-19<br>02-SEP-19 |
| trans-1,2-Dichloroethyle   | ene      |           | 98.3          |           | %     |     | 60-130           | 02-SEP-19<br>02-SEP-19 |
| trans-1,3-Dichloroprope    |          |           | 100.2         |           | %     |     | 70-130           | 02-SEP-19<br>02-SEP-19 |
| Trichloroethylene          | 5110     |           | 105.8         |           | %     |     | 60-130           | 02-SEP-19              |
| Trichlorofluoromethane     | <u>,</u> |           | 96.0          |           | %     |     | 50-130           | 02-SEP-19              |
| Vinyl chloride             |          |           | 97.4          |           | %     |     | 60-140           | 02-SEP-19              |
| WG3145355-1 MB             |          |           | · · · ·       |           |       |     | 00 140           | 02 OEI -13             |
| 1,1,1,2-Tetrachloroetha    | ane      |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,1,2,2-Tetrachloroetha    | ane      |           | < 0.050       |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,1,1-Trichloroethane      |          |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,1,2-Trichloroethane      |          |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,1-Dichloroethane         |          |           | < 0.050       |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,1-Dichloroethylene       |          |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,2-Dibromoethane          |          |           | < 0.050       |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,2-Dichlorobenzene        |          |           | < 0.050       |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,2-Dichloroethane         |          |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,2-Dichloropropane        |          |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,3-Dichlorobenzene        |          |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| 1,4-Dichlorobenzene        |          |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| Acetone                    |          |           | <0.50         |           | ug/g  |     | 0.5              | 02-SEP-19              |
| Benzene                    |          |           | <0.0068       |           | ug/g  |     | 0.0068           | 02-SEP-19              |
| Bromodichloromethane       | )        |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| Bromoform                  |          |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
| Bromomethane               |          |           | <0.050        |           | ug/g  |     | 0.05             | 02-SEP-19              |
|                            |          |           |               |           |       |     |                  |                        |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test N                              | <b>Matrix</b> | Reference  | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------------------|---------------|------------|---------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                       | Soil          |            |         |           |       |     |        |           |
| Batch R4780049                      |               |            |         |           |       |     |        |           |
| WG3145355-1 MB Carbon tetrachloride |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| Chlorobenzene                       |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| Chloroform                          |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| cis-1,2-Dichloroethylene            |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| cis-1,3-Dichloropropene             |               |            | < 0.030 |           | ug/g  |     | 0.03   | 02-SEP-19 |
| Dibromochloromethane                |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| Dichlorodifluoromethane             |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| Ethylbenzene                        |               |            | <0.018  |           | ug/g  |     | 0.018  | 02-SEP-19 |
| n-Hexane                            |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| Methylene Chloride                  |               |            | < 0.050 |           | ug/g  |     | 0.05   | 02-SEP-19 |
| MTBE                                |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| m+p-Xylenes                         |               |            | <0.030  |           | ug/g  |     | 0.03   | 02-SEP-19 |
| Methyl Ethyl Ketone                 |               |            | <0.50   |           | ug/g  |     | 0.5    | 02-SEP-19 |
| Methyl Isobutyl Ketone              |               |            | <0.50   |           | ug/g  |     | 0.5    | 02-SEP-19 |
| o-Xylene                            |               |            | <0.020  |           | ug/g  |     | 0.02   | 02-SEP-19 |
| Styrene                             |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| Tetrachloroethylene                 |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| Toluene                             |               |            | <0.080  |           | ug/g  |     | 0.08   | 02-SEP-19 |
| trans-1,2-Dichloroethylene          |               |            | <0.050  |           | ug/g  |     | 0.05   | 02-SEP-19 |
| trans-1,3-Dichloropropene           |               |            | <0.030  |           | ug/g  |     | 0.03   | 02-SEP-19 |
| Trichloroethylene                   |               |            | <0.010  |           | ug/g  |     | 0.01   | 02-SEP-19 |
| Trichlorofluoromethane              |               |            | < 0.050 |           | ug/g  |     | 0.05   | 02-SEP-19 |
| Vinyl chloride                      |               |            | <0.020  |           | ug/g  |     | 0.02   | 02-SEP-19 |
| Surrogate: 1,4-Difluoroben          | nzene         |            | 113.8   |           | %     |     | 50-140 | 02-SEP-19 |
| Surrogate: 4-Bromofluorob           | enzene        |            | 93.3    |           | %     |     | 50-140 | 02-SEP-19 |
| WG3145355-5 MS                      |               | L2334162-3 |         |           |       |     |        |           |
| 1,1,1,2-Tetrachloroethane           |               |            | 97.1    |           | %     |     | 50-140 | 02-SEP-19 |
| 1,1,2,2-Tetrachloroethane           |               |            | 99.6    |           | %     |     | 50-140 | 02-SEP-19 |
| 1,1,1-Trichloroethane               |               |            | 99.8    |           | %     |     | 50-140 | 02-SEP-19 |
| 1,1,2-Trichloroethane               |               |            | 99.2    |           | %     |     | 50-140 | 02-SEP-19 |
| 1,1-Dichloroethane                  |               |            | 97.4    |           | %     |     | 50-140 | 02-SEP-19 |
| 1,1-Dichloroethylene                |               |            | 92.5    |           | %     |     | 50-140 | 02-SEP-19 |
| 1,2-Dibromoethane                   |               |            | 99.5    |           | %     |     | 50-140 | 02-SEP-19 |
| 1,2-Dichlorobenzene                 |               |            | 99.6    |           | %     |     | 50-140 | 02-SEP-19 |



Workorder: L2334358 Report Date: 25-SEP-19 Page 23 of 24

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                 | Matrix | Reference  | Result         | Qualifier | Units | RPD | Limit            | Analyzed               |
|--------------------------------------|--------|------------|----------------|-----------|-------|-----|------------------|------------------------|
| VOC-511-HS-WT                        | Soil   |            |                |           |       |     |                  |                        |
| Batch R4780049                       |        |            |                |           |       |     |                  |                        |
| WG3145355-5 MS<br>1,2-Dichloroethane |        | L2334162-3 | 10E 0          |           | %     |     | 50.440           | 00.055.40              |
| 1,2-Dichloropropane                  |        |            | 105.8<br>103.7 |           | %     |     | 50-140           | 02-SEP-19              |
| 1,3-Dichlorobenzene                  |        |            | 96.1           |           | %     |     | 50-140           | 02-SEP-19              |
| 1,4-Dichlorobenzene                  |        |            | 99.9           |           | %     |     | 50-140<br>50-140 | 02-SEP-19              |
| Acetone                              |        |            | 103.0          |           | %     |     | 50-140           | 02-SEP-19              |
| Benzene                              |        |            | 103.0          |           | %     |     | 50-140           | 02-SEP-19              |
| Bromodichloromethane                 |        |            | 104.0          |           | %     |     |                  | 02-SEP-19              |
| Bromoform                            |        |            | 105.1          |           | %     |     | 50-140<br>50-140 | 02-SEP-19<br>02-SEP-19 |
| Bromomethane                         |        |            | 90.4           |           | %     |     | 50-140           | 02-SEP-19<br>02-SEP-19 |
| Carbon tetrachloride                 |        |            | 104.6          |           | %     |     | 50-140           | 02-SEP-19              |
| Chlorobenzene                        |        |            | 100.3          |           | %     |     | 50-140           | 02-SEP-19              |
| Chloroform                           |        |            | 104.5          |           | %     |     | 50-140           | 02-SEP-19              |
| cis-1,2-Dichloroethylene             | ÷      |            | 97.6           |           | %     |     | 50-140           | 02-SEP-19              |
| cis-1,3-Dichloropropene              |        |            | 104.1          |           | %     |     | 50-140           | 02-SEP-19              |
| Dibromochloromethane                 |        |            | 99.6           |           | %     |     | 50-140           | 02-SEP-19              |
| Dichlorodifluoromethan               | е      |            | 74.9           |           | %     |     | 50-140           | 02-SEP-19              |
| Ethylbenzene                         |        |            | 88.3           |           | %     |     | 50-140           | 02-SEP-19              |
| n-Hexane                             |        |            | 84.4           |           | %     |     | 50-140           | 02-SEP-19              |
| Methylene Chloride                   |        |            | 103.5          |           | %     |     | 50-140           | 02-SEP-19              |
| MTBE                                 |        |            | 100.9          |           | %     |     | 50-140           | 02-SEP-19              |
| m+p-Xylenes                          |        |            | 92.4           |           | %     |     | 50-140           | 02-SEP-19              |
| Methyl Ethyl Ketone                  |        |            | 96.7           |           | %     |     | 50-140           | 02-SEP-19              |
| Methyl Isobutyl Ketone               |        |            | 95.5           |           | %     |     | 50-140           | 02-SEP-19              |
| o-Xylene                             |        |            | 88.8           |           | %     |     | 50-140           | 02-SEP-19              |
| Styrene                              |        |            | 93.0           |           | %     |     | 50-140           | 02-SEP-19              |
| Tetrachloroethylene                  |        |            | 96.8           |           | %     |     | 50-140           | 02-SEP-19              |
| Toluene                              |        |            | 93.5           |           | %     |     | 50-140           | 02-SEP-19              |
| trans-1,2-Dichloroethyle             | ene    |            | 97.7           |           | %     |     | 50-140           | 02-SEP-19              |
| trans-1,3-Dichloroprope              | ne     |            | 96.3           |           | %     |     | 50-140           | 02-SEP-19              |
| Trichloroethylene                    |        |            | 105.3          |           | %     |     | 50-140           | 02-SEP-19              |
| Trichlorofluoromethane               |        |            | 98.4           |           | %     |     | 50-140           | 02-SEP-19              |
| Vinyl chloride                       |        |            | 99.5           |           | %     |     | 50-140           | 02-SEP-19              |
|                                      |        |            |                |           |       |     |                  |                        |

Workorder: L2334358 Report Date: 25-SEP-19

CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Legend:

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

Average Desorption Efficiency ADE

Method Blank MB

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.                 |
| 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.

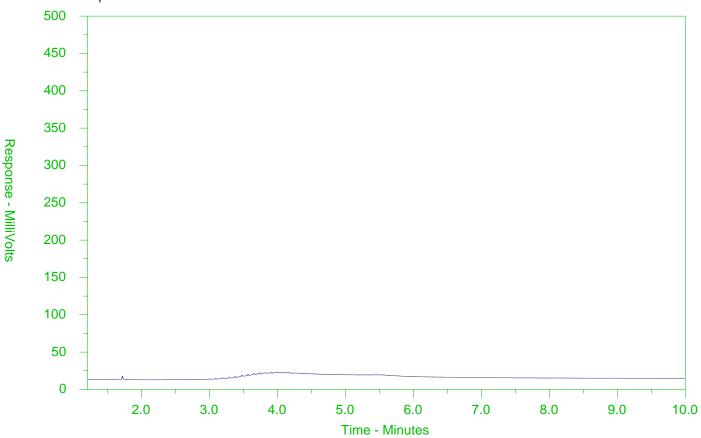
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide 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.

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ALS Sample ID: L2334358-1 Client Sample ID: BH201-7.5-9.5



| <b>←</b> -F2-   | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|-----------------|-------------|------------------|---------------------------|---|
| nC10            | nC16        | nC34             | nC50                      |   |
| 174°C           | 287°C       | 481°C            | 575°C                     |   |
| 346°F           | 549°F       | 898°F            | 1067°F                    |   |
| Gasoline → ← Mo |             |                  | tor 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.

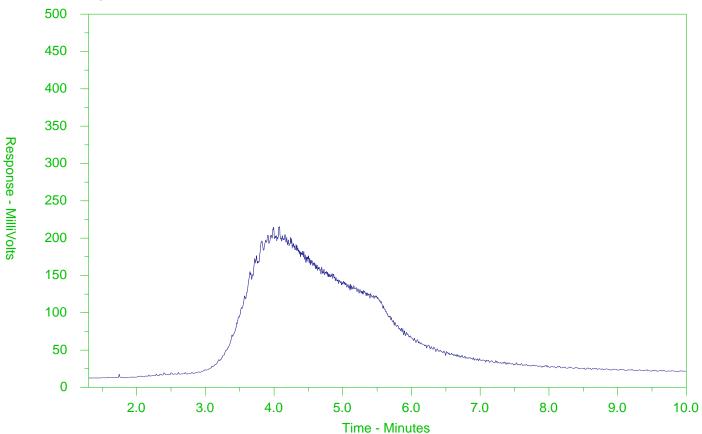
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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.



ALS Sample ID: L2334358-3

Client Sample ID: BH201-12.5-12.11"



| <b>←</b> -F2-   | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|-----------------|-------------|------------------|---------------------------|---|
| nC10            | nC16        | nC34             | nC50                      |   |
| 174°C           | 287°C       | 481°C            | 575°C                     |   |
| 346°F           | 549°F       | 898°F            | 1067°F                    |   |
| Gasoline → ← Mo |             |                  | tor Oils/Lube Oils/Grease | - |
| •               | -Diesel/Jet | Fuels→           |                           |   |

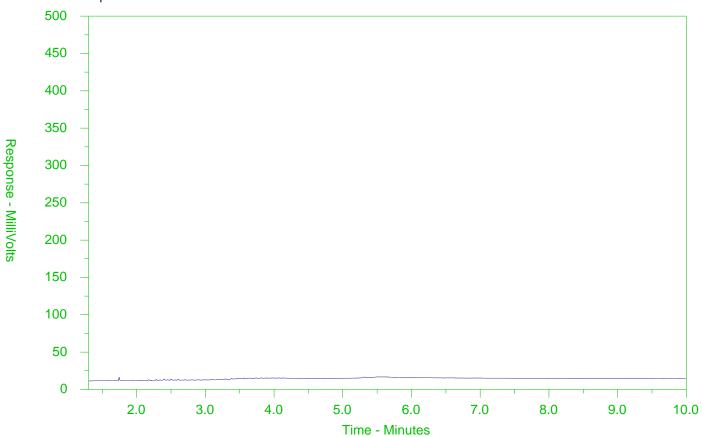
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2334358-8 Client Sample ID: MW100-7.5-9.5



| <b>←</b> -F2-   | →-          | -F3 <b>→</b> F4 | <b>→</b>                       |  |
|-----------------|-------------|-----------------|--------------------------------|--|
| nC10            | nC16        | nC34            | nC50                           |  |
| 174°C           | 287°C       | 481°C           | 575°C                          |  |
| 346°F           | 549°F       | 898°F           | 1067°F                         |  |
| Gasoline → ← Mo |             |                 | Notor Oils/Lube Oils/Grease——— |  |
| <b>←</b>        | -Diesel/Jet | Fuels→          |                                |  |

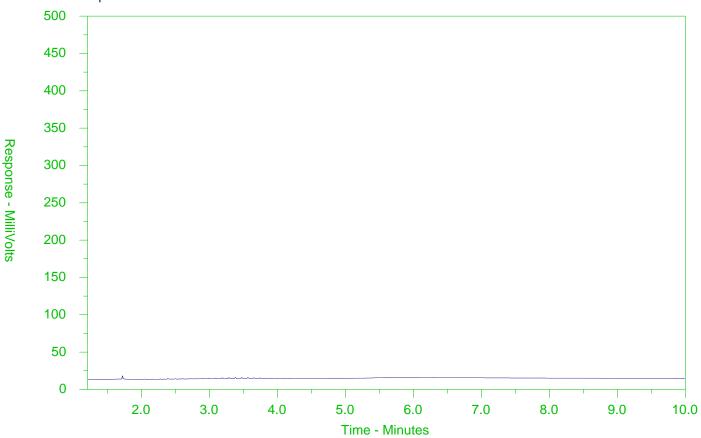
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2334358-12 Client Sample ID: BH204-11-12

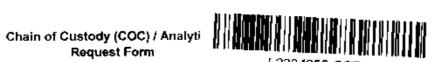


| <b>←</b> -F2-   | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|-----------------|-------------|------------------|---------------------------|---|
| nC10            | nC16        | nC34             | nC50                      |   |
| 174°C           | 287°C       | 481°C            | 575°C                     |   |
| 346°F           | 549°F       | 898°F            | 1067°F                    |   |
| Gasoline → ← Mo |             |                  | tor 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.



L2334358-COFC

CCC Number 17 -

| ,, ,,           | www.alsglobal.com                                                     | Ounday 10.                  | Free: 1 800 5                            |                                 |                  |                 |                                                                                                                            |          |               |          |              |          |         |                                                  |         |        |            |           |               |                   |        |            |                      |
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| Report To       | Contact and company name helow will app                               | car on the final report     |                                          | Report Format                   |                  |                 | Γ                                                                                                                          | Selec    | t Serv        | ice Le   | vel Bo       | low -    | Conta   | ct yau                                           | r AM I  | o conf | firm all E | &P TA     | Fa (sum       | :harges           | may e  | ipply}     |                      |
| Сопрвлу         | CH2M H#VJscobs                                                        |                             | Select Report F                          | ormat 🖺 PDF [                   | Şolexası Zin     | CI (CNGITAL)    | <u>L.</u>                                                                                                                  | Re       | gular         | [R]      | <b>\S</b>    | nrkard   | TAT 🕻 ı | 43.25VES                                         | iby 3 p | m - bu | uness day  | 5 - 00 9  | irrhaiges     | apply             |        |            |                      |
| Contact:        | Andrew Vermeersch                                                     |                             | -                                        | (QC) Report with R              | ,                |                 | £ 3                                                                                                                        |          | y (P4         |          |              |          |         |                                                  |         |        | / [E1 - 1: | -         |               |                   |        |            |                      |
| Phone:          | 519 579 3500 x 73247                                                  |                             | Compare Result                           | s to Criteria on Report -       |                  |                 |                                                                                                                            |          | ay [P3-25%] 🗍 |          |              |          | 8       | Same Day, Weekend or Statutory holiday (E2 -200% |         |        |            |           |               |                   |        |            |                      |
|                 | Company address below will appear on the fir                          | nal report                  | Select Distribut                         | <u> </u>                        | □ MAI. □         |                 | T 2                                                                                                                        | 2 da     | y [P2·        | 60%)     | ]            |          | •       | (Lab                                             | oration | у оре  | aning fe   | es ma     | y apply       | 11                |        |            |                      |
| Street.         | 72 Victoria Street South, Suite 300                                   |                             |                                          | Andrew Vermeers                 |                  | l               | ₩                                                                                                                          |          |               | <u></u>  | lred for     |          |         |                                                  |         |        |            |           |               |                   |        |            |                      |
| City/Province:  | Kitchener/Ontario                                                     |                             | Email 2 אַקיּוֹנְעָּיָּאָ                | <u>(e   .3 h. 44 P. jac</u>     | سرب رثان         |                 | For twelt that can not be performed according to the service level selected, you will be contacted.  A notive in Received: |          |               |          |              |          |         |                                                  |         |        |            |           |               |                   |        |            |                      |
| Postal Code     | N2G 4Y9                                                               |                             | Email 3 <u> </u> ∠₁⊬                     | w. m. Apoles                    |                  | <u> </u>        | Analysis Request  Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F)P) below                               |          |               |          |              |          |         |                                                  |         |        |            |           |               |                   |        |            |                      |
| invoice To      | Same as Report To                                                     | <u></u> №0                  |                                          | Invoice Did                     | itribuition      |                 | ــــــــــــــــــــــــــــــــــــــ                                                                                     |          | India         | ane Fil  | ared (F      | ), Pres  | erved ( | P) or F                                          | Herec & | nd Pre | served (F/ | /P) below | <u>* — — </u> | $\longrightarrow$ |        | detai      |                      |
|                 | Copy of Invoice with Report : YES [                                   | _`mo                        |                                          | Distribution: EMA               |                  | ☐ FAX           | Щ                                                                                                                          | r        | f             |          |              |          |         |                                                  |         |        |            | $\bot$    |               | Ш                 |        | <u>₽</u>   |                      |
| Сотрапу:        | CH2M Hill Kitchener                                                   |                             | Email 1 or Fax                           | nail 1 or Fax. Accounts Payable |                  |                 |                                                                                                                            |          |               |          |              | i        |         |                                                  |         |        |            |           |               |                   |        | 盲          |                      |
| Contact:        | Accounts Payable                                                      |                             | Email 2                                  | mail 2                          |                  |                 |                                                                                                                            |          |               |          |              | l        |         |                                                  |         | !      | ( l        |           |               | 1 1               | . 1    | 8          |                      |
|                 | Project Information                                                   |                             | Oit and Gas Required Fields (client use) |                                 |                  |                 | 1                                                                                                                          |          |               |          |              |          |         |                                                  |         |        |            |           |               |                   |        | rovide     |                      |
| ALS Account #   | # / Quote # Q72960                                                    |                             | AFE/Cost Center PO#                      |                                 |                  |                 | 1                                                                                                                          |          |               |          |              | ŝ        |         |                                                  |         |        |            |           |               |                   |        | ÷          |                      |
| Job ≄.          | CE751900.A.CS EV.A2                                                   |                             | Majori Minar Code Routing Code           |                                 |                  |                 | 1                                                                                                                          |          |               |          |              | 12       |         |                                                  |         | ្ស     |            |           | i             |                   |        | #          | E                    |
| PO/AFE.         |                                                                       |                             | Requisitioner.                           |                                 |                  |                 | 1                                                                                                                          |          |               |          |              | <u>ء</u> |         |                                                  |         | ્ર     |            |           |               | 1                 | اه     | <u> </u>   | Ĭ.                   |
| LSD:            |                                                                       |                             | Location:                                |                                 |                  |                 | Įį                                                                                                                         |          |               |          |              | E .      |         |                                                  |         | Š      |            |           |               |                   | 로      | ğ          | ð                    |
| ALS Lab Wor     | rk Order # (fab use only): [23]                                       | 4358 236                    | ALS Contact: <sup>8</sup>                | Mathy                           | Sampler:         | Andrew V.       | 2 Inorga                                                                                                                   |          |               |          |              | ard Ful  |         |                                                  |         | Par.   |            |           |               |                   | ES ON  | is haza    | NUMBER OF CONTAINERS |
| ALS Sample #    | Sample Identification                                                 | and/or Coordinates          |                                          | Date                            | Time             | Sample Type     | 1 👸                                                                                                                        | ٦        | l.            | Z.       | <sub>+</sub> | Smooth   | an l    | U                                                | ·       | Ξ      |            | -1        |               |                   | SAMPL  | Semple     | 3                    |
| (leb use only)  | a content of                                                          |                             |                                          | (dd-mmm-yy)                     | (hh:mm)          | Sample Type     | 3                                                                                                                          | δ        | ΒŢ            | ¥<br>1   | ¥            | 8        | et o    | 100                                              | ABK     | ξ      |            |           |               |                   | ğ      | Š.         | ₹                    |
| 7               | BH201-7.5-4.5                                                         |                             |                                          | 21-Aug 19                       | 15-3i            | 34:1            | <b>⋠</b>                                                                                                                   | X        | ¥             | <b>K</b> | ۴            |          |         |                                                  |         |        |            |           | $\perp$       |                   |        |            | 4                    |
| 2               | RM201-7.6-9.6                                                         |                             |                                          | Ni '                            |                  | ,,              | <u> </u>                                                                                                                   |          |               |          |              |          |         |                                                  |         | Х      | Ш          | $\bot$    |               | Ш                 | 1      |            |                      |
| 3               | 5/201-12-5-12-11"                                                     |                             |                                          | 19                              | 15:49            | þ               |                                                                                                                            | X        | 人             | X        |              |          |         |                                                  |         |        |            | 丄         |               |                   |        |            | r                    |
| 4               | BH201-12-0-12-11"                                                     |                             |                                          | 1,                              | 15               | T p             |                                                                                                                            |          |               |          | Х            |          |         |                                                  |         |        |            |           | Ш             | <u>.</u>          | 1      |            |                      |
| 5               | BH201-15406 12.11-1                                                   | 3.2"                        |                                          | 0                               | 15.50            | 31              | ΙX                                                                                                                         | <b>*</b> | ×             | *        | *            |          |         |                                                  |         | ×      |            |           |               |                   | 42     |            |                      |
| 6               | BHZ01-15-16                                                           | -                           | ••                                       | 14                              | 16.00            | ; (             | Ι΄                                                                                                                         | X        | X             | X        | X            |          |         |                                                  |         |        |            |           |               |                   | Ÿ      |            |                      |
| 7               | EH201-25-27                                                           |                             |                                          | h                               | 16:43            | 11              | Īν                                                                                                                         | ¥        | ٨             | ¥        | X            |          |         |                                                  |         | Х      |            |           |               |                   | 5      |            |                      |
| 8               | MW100 - 7-5-9-5                                                       |                             |                                          | 22-Ang. 19                      |                  | 'P              | ×                                                                                                                          | X        | X             | X        | X            |          |         | Х                                                |         |        |            |           |               |                   |        |            | 5                    |
| 4               | MW100-7.5-9.5                                                         | ·                           |                                          | 1,1                             | 4                | r.              | Γ                                                                                                                          |          |               |          |              | "        |         |                                                  |         | X      |            | П         | Т             |                   | 1      |            |                      |
| To              | MW100-15-17                                                           |                             |                                          | 51                              | 9.18             | n               | П                                                                                                                          |          |               |          | -            |          |         | Х                                                |         |        |            | П         | Т             |                   |        |            | ì                    |
| 77              | MW:00 - 15-17                                                         |                             | •                                        | -4                              | ()               | 11              | X                                                                                                                          | X        | X             | K        | X            | l —      |         |                                                  | "       | ",     |            |           | T             |                   | ¥      | $\Box$     |                      |
| - <del></del>   | 7811                                                                  |                             |                                          |                                 |                  | <b></b>         | <u> </u>                                                                                                                   |          | Ť             | <u> </u> |              |          |         |                                                  |         |        |            | $\top$    | $\top$        |                   | T      |            |                      |
|                 |                                                                       | Special Instructions / Sp   | ecily Criteria to                        | add on report by clic           | king on the drea | down list below | †                                                                                                                          |          |               |          | SAI          | MPLE     | CON     | OITK                                             | N AS    | RECE   | IVED (I    | ab usv    | only)         |                   |        |            |                      |
| Orinking        | Water (OW) Samples¹ (client use)                                      | 1                           | (elec                                    | tranic COC only)                |                  |                 | Froz                                                                                                                       | en e     |               |          |              |          | SIF C   | lbsen                                            | ation   | 5      | Yes        |           |               | No                |        | E          | I                    |
| Are samples tak | en from a Regulated IIIV System?                                      | Davis (stantage             | to Table                                 | الدينة مطاكا                    | ور ما در الم     | wet             | ice P                                                                                                                      | acks     |               | ice (    | ubes         | 钩        | Custo   | ady se                                           | al inta | ct     | Yes        |           |               | No                |        | C          | Ï                    |
| N               | es ( <b>3</b> 0±wo                                                    | Plage compose socialists on | errort.                                  | ,., .,,,                        |                  |                 | Cool                                                                                                                       | ing Ini  | tisted        |          |              | `        |         |                                                  |         |        |            |           |               |                   |        |            |                      |
| Are samples for | human consumption/ use?                                               | PACIFICACIA PA              | . 4-                                     |                                 |                  |                 |                                                                                                                            | , IP     | IIITIAL<br>T  | COOL     | ĒR TEM       | IPERA    | TURE5   | ٠                                                |         |        |            | ar cool   | LER TEN       | PERATI            | JRES Y | c          |                      |
| [ □ vi          | ES 🙀 NO                                                               | Please unite 5              | n                                        | ر مع <u>حم</u> اها،             | HOLD             |                 | $L_{-}$                                                                                                                    |          | L             |          |              |          | L_      |                                                  |         | 4      |            |           |               |                   |        |            |                      |
|                 | SHIPMENT RELEASE (client use                                          | :)                          |                                          | INITIAL SHIPMEN                 | TRECEPTION (     | (lab use only)  |                                                                                                                            |          |               |          |              | F        | INAL    | SHIP                                             |         |        | EPTION     | i (lab i  | ase onl       | <del></del>       |        |            |                      |
| Released by:    | Want sch fr Date: 12 - Aug - 1<br>KPAGE FOR ALS LOCATIONS AND SAMPLIN | 9 Time:                     | Received by:                             |                                 | .Date:           |                 | Time                                                                                                                       |          |               | eived    | by:          | <u>_</u> | 13      |                                                  | Date    | -      | Au         | KA .      | 22            |                   | Time:  | <u>. (</u> | 0                    |
| REFER TO BACK   | K PAGE FOR ALS LOCATIONS AND SAMPLIN                                  | IG INFORMATION              |                                          | WHI                             | 1E LABORATOR     | RY COPY YEL     | LOW -                                                                                                                      | CLIE     | VI CO         | PΥ       |              |          | *       |                                                  |         |        | •          | 77        |               |                   |        | ₹ L. YO.   | TERCH                |

# ALS) E ITEM TH

### Chain of Custody (COC) / Analyt Request Form



L2334358-COFC

COC Number: 17 -

Page Z of Z

| Report To                                  | Contact and company name below will appear on the final               | report                         | Report Forma                                     | t / Distribution       |                                                  | $\bot$                                                                                                 | Seleci           | l Şervic          | ce Levi       | ol Bek        | · Co          | intec                                            | your.                 | AM to    | o confi       | um ak i       | E&P TA        | īs (sur   | :hørge:      | may.    | apply!                                           | į            |
|--------------------------------------------|-----------------------------------------------------------------------|--------------------------------|--------------------------------------------------|------------------------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------|------------------|-------------------|---------------|---------------|---------------|--------------------------------------------------|-----------------------|----------|---------------|---------------|---------------|-----------|--------------|---------|--------------------------------------------------|--------------|
| Company                                    | CH2M Hill/Jacobs                                                      | · ·                            | Format 🔣 PCF                                     | _                      |                                                  |                                                                                                        | Re               | gular [           | [R]           | 9 Sun         | dard TA       | Tifne                                            | u <del>ni</del> vad i | ey Î p   | m bus         | iress da      | VS - NO 9     | vcharge   | s appyly     |         |                                                  |              |
| Contact:                                   | Andrew Vermeersch                                                     | Quality Control                | (QC) Report with I                               | Report 🏹 YES           | □ NG                                             | Èå                                                                                                     | 4 day            | / [P4-2           | 20%]          |               | - T           | Ever                                             | Bus                   | ines     | s day         | [E1 - 1       | 00%]          |           |              |         |                                                  |              |
| Phone:                                     | 519 579 3500 x 73247                                                  | Compare Resu                   | As to Criteria on Report                         | - provide decails belo | a if box checked                                 | 8 8                                                                                                    | 3 day            | / [P3-2           | 25%]          |               |               | Same Day, Weekend or Statutory holiday [62 -200% |                       |          |               |               |               |           |              |         |                                                  |              |
|                                            | Company address below will appear on the final report                 | Select Distribu                | tion. 🎢 EMAIL                                    | MAIL (1)               | FAX                                              | ិ ខ្លឺ 2 day [P2-50%] 🗍                                                                                |                  |                   |               |               |               | (Laboratory opening fees may apply) ]            |                       |          |               |               |               |           |              |         |                                                  |              |
| Street:                                    | 72 Victoria Street South, Suite 300                                   | Email 1 or Fax                 | Andrew Vermeen                                   | sch@jacobs.com         |                                                  |                                                                                                        | Data an          | d Time i          | Require       | ed for a      | (IE&P         | TATE:                                            |                       |          |               |               |               |           |              |         |                                                  |              |
| City/Province:                             | Kitchener/Ontatio                                                     | Email 2 Vh. u                  | hael shoryeige                                   | سرون روؤن              |                                                  | Fire tents, that dues not be performed according to the service level selected, you was the contacted. |                  |                   |               |               |               |                                                  |                       |          |               |               |               |           |              |         |                                                  |              |
| Postel Code                                | N2G 4Y9                                                               | Email 3 ما                     | المام المرابعة والمعام                           | عبر الأزير وياسي-      | ٠٠,٠٠                                            | Analysis Request                                                                                       |                  |                   |               |               |               |                                                  |                       |          |               |               |               |           |              |         |                                                  |              |
| Invoice To                                 | Same as Report To ☐ YES ☐ NO                                          |                                | Invoice D                                        | istribution            |                                                  |                                                                                                        |                  | Indica            | de Fide       | ed (F),       | Preserv       | red (P.                                          | or File               | ered a   | nd Pres       | erved (F      | )P) belo      | W         |              |         | 1                                                | 1            |
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| Company:                                   | CH2M Hit Kitchener                                                    | Email 1 or Fax                 | 1 or Fax Accounts Payable                        |                        |                                                  |                                                                                                        |                  | .                 |               | 一             | $\neg$        | ┪                                                |                       | $\neg$   | ヿ             | $\neg$        |               |           | $\top$       |         | Ę                                                | 1            |
| Contact:                                   | Accounts Payable                                                      | Email 2                        |                                                  |                        |                                                  |                                                                                                        |                  |                   |               |               |               | - 1                                              |                       | - 1      | - 1           |               | ŀ             |           |              |         | <u> </u>                                         | 1            |
|                                            | Project Information                                                   | 0                              | il and Gas Requir                                | ed Fields (client      | use)                                             |                                                                                                        | 1                |                   |               |               |               |                                                  |                       |          |               | ŀ             | ŀ             |           |              |         | ě                                                | 1            |
| ALS Account                                | # / Quote #. Q72980                                                   | AFF/Cost Center                | AFF/Cost Center PO#                              |                        |                                                  |                                                                                                        | 1 1              |                   |               |               | 66            | ŀ                                                |                       |          | Ì             | - 1           |               |           |              |         |                                                  | 1            |
| Job #.                                     | CE751900 A CS EV.A2                                                   | Major/Minor Code               |                                                  | Routing Code           |                                                  |                                                                                                        | ] ;              |                   |               |               | ALS.          |                                                  |                       | - 1      | ᆉ             | . [           |               |           |              |         | 8                                                | S.S.         |
| PO / AFE:                                  |                                                                       | Requisitioner:                 | Requisitioner:                                   |                        |                                                  |                                                                                                        | ] ]              |                   |               |               | ě             | l                                                |                       |          | 31            |               |               |           |              | ٦       | <u>-</u>                                         | Ž            |
| LSD.                                       |                                                                       | Location.                      |                                                  |                        |                                                  |                                                                                                        |                  |                   |               |               | 8             | - 1                                              |                       |          | 3             | ŀ             |               |           |              | Q C     | 둳                                                | CONTAINERS   |
| ALS Lab Work Order # (IAb use only): ALS C |                                                                       |                                | Mathy                                            | Samplar:               | Andrew V.                                        | Prorgar                                                                                                |                  |                   |               |               | and Fur       |                                                  |                       | i        |               | .             |               |           |              | ES ON H | ezen ai                                          | NUMBER OF CO |
| ALS Sample #                               | Sample Identification and/or Coo                                      | rdinates                       | Date                                             | Time                   | Şample Type                                      | 3 56                                                                                                   | 6                |                   | 7             | Ţ.            | .g.           | ا "                                              | اہ                    | , l      | 퐋             | ŀ             |               |           |              |         | <u> </u>                                         | 翼            |
| (lab use only)                             | (This description will appear on the                                  | report)                        | (dd-namm-yy)                                     | (hin mm)               | замина туре                                      | Melals                                                                                                 | 8                | χLΘ               | F1-F4         | ¥             | Diaxi         | B.                                               | <u>ğ</u>              | A8N      | €             |               |               |           |              | ваме    | δ.<br>101                                        | ž            |
| 12                                         | 13H204-11-12                                                          |                                | 22-1447-09                                       | 15:31                  | 5-1                                              | Ж                                                                                                      | X                | ×                 | x             | ×             | ļ             |                                                  | <b>*</b>              |          | ĺ             | - [           |               |           |              |         |                                                  | 5            |
| 7.3                                        |                                                                       |                                | 11                                               | 15:31                  | 1 4                                              |                                                                                                        | Γ΄               |                   |               | $\neg$        |               | 丁                                                | T                     | $\Box$   | ХĪ            |               |               |           | $\Box$       |         | abla                                             |              |
| 74                                         | BHZU4-11-12<br>BHZO4-15-15-11"                                        | <del></del>                    | 10                                               | 15:57                  | 11                                               | х                                                                                                      | X                | $\overline{}$     | χ             | 7             |               | $\neg$                                           | ĸ                     |          |               |               | $\neg$        | 7         | $\top$       | 5       | $\Box$                                           |              |
| <del>/, /_</del> -                         |                                                                       |                                | <del>                                     </del> | 16:21                  | 1 7                                              | X                                                                                                      | † <del>``</del>  | x                 |               | x             | $\dashv$      | 1                                                |                       | _        | $\neg$        | $\dashv$      | $\top$        | $\top$    | 1            | 4       | <b> </b>                                         | $\vdash$     |
| (5                                         | BAZOH- 17.5-18.9"                                                     |                                | <u> </u>                                         | 10.71                  | <del>                                     </del> | ┵                                                                                                      | ₽~               | <del>- 7 -</del>  | <del>^</del>  | $^{-}$        |               |                                                  | <del></del> -∤-       | $\dashv$ |               | -+            | _             | +         | ╀─┤          | 7       | $\vdash\vdash$                                   | <u> </u>     |
| 16                                         | TRIPBLANK-ZOLAD822                                                    |                                | it                                               | <del>-</del>           | Mellowel                                         | -                                                                                                      | X                | X                 | · ·           | +             | +             | $\dashv$                                         | -                     | ·        |               |               |               |           | ·            |         |                                                  | ì            |
| · · · · · · · · · · · · · · · · · · ·      |                                                                       |                                | <del>                                     </del> |                        | <u> </u>                                         | ╁                                                                                                      |                  | $\Box$            | $\neg$        | $\dashv$      | $\dashv$      | $\dashv$                                         | $\dashv$              |          |               | $\top$        | +             | 十         | <del> </del> |         |                                                  |              |
|                                            | . 4//                                                                 | ~                              | †                                                | 1 -                    | ·                                                | $\top$                                                                                                 | Τ-               |                   |               | 一             | 十             | $\dashv$                                         | $\neg$                | ヿ        | $\neg$        | $\neg$        |               | 1         | $\vdash$     |         | $\Box$                                           |              |
| ļ- <del>-</del>                            | ·                                                                     |                                |                                                  | - <del></del>          | 1                                                |                                                                                                        |                  |                   | _             |               | $\dashv$      | 1                                                | _                     | $\dashv$ |               | $\overline{}$ | $\rightarrow$ | +         | +            | H       | <del>                                     </del> |              |
|                                            |                                                                       |                                | 1                                                | <u> </u>               | <del> </del>                                     | +                                                                                                      | $\vdash$         | $\rightarrow$     | $\rightarrow$ | +             | +             | $\rightarrow$                                    | $\dashv$              | $\dashv$ | $\rightarrow$ | $\rightarrow$ |               | +-        | ╄─┤          |         | ┝┈┤                                              | ⊢            |
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| l                                          | <u> </u>                                                              |                                | .]                                               |                        |                                                  | <u> </u>                                                                                               | ļ <u>.</u>       | $\longrightarrow$ |               | _             | _             | $\rightarrow$                                    | _                     | _        |               | $\rightarrow$ |               | <b></b> _ | <b> </b> '   |         | ļ                                                | ļ            |
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|                                            | g Water (DW) Samples* (client use)                                    | (ele                           | etronic COC only)                                |                        |                                                  | Froz                                                                                                   |                  |                   |               |               |               |                                                  | SOFVE                 |          |               | res           | ╚             |           | No           |         |                                                  | ╛            |
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| _                                          | © 19100 P(CO)A                                                        | mite - Some                    | Sumples .                                        | س ۱ <u>۲۵۵</u>         |                                                  |                                                                                                        |                  |                   | T             |               | T             |                                                  |                       |          | 4             | - 6           |               |           |              |         |                                                  |              |
|                                            | SHIPMENT RELEASE (client use)                                         | <i></i>                        | INITIAL SHIPMEN                                  |                        | lab use only)                                    | <b></b> .                                                                                              |                  |                   |               |               | FIN           | IAL S                                            | HIPN                  | CENT     |               | •             | N (lab        | ise on    | y)           |         |                                                  |              |
|                                            | Chrysten LAN 22 Aug-19 K PAGE FOR ALS LOCATIONS AND SAMPLING INFORMAT | Time: Received by:             |                                                  | Date.                  |                                                  | Time                                                                                                   |                  |                   | ved b         |               |               |                                                  |                       | Date:    |               | 4             |               |           |              | Time    | :1                                               |              |

Failure to complete all portions of this form may delay analysis. Please (il in this form :EGIBLY: 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.

If any water complets are taken from a Regulated Drinking Water (DW). System, please submit using an Authorized DW CQC form.



CH2M HILL CANADA LIMITED ATTN: Andrew Vermeersch

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Date Received: 27-AUG-19

Report Date: 06-SEP-19 07:38 (MT)

Version: FINAL

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2336707
Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV.A2

C of C Numbers: Legal Site Desc:

Emily Hansen Account Manager

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### ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample Details/Parameters                                                         | Result   | Qualifier* | D.L.    | Units    | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------------------|----------|------------|---------|----------|-----------|-----------|----------|
| L2336707-1 TCLP- 20190827<br>Sampled By: AV on 27-AUG-19 @ 09:35<br>Matrix: WATER |          |            |         |          |           |           |          |
| Sample Preparation                                                                |          |            |         |          |           |           |          |
| Initial pH                                                                        | 9.96     |            | 0.10    | pH units |           | 04-SEP-19 | R4782410 |
| Final pH                                                                          | 5.76     |            | 0.10    | pH units |           | 04-SEP-19 | R4782410 |
| Physical Tests                                                                    |          |            |         |          |           |           |          |
| % Moisture                                                                        | 9.88     |            | 0.10    | %        | 29-AUG-19 | 29-AUG-19 | R4774952 |
| TCLP Extractables                                                                 |          |            |         |          |           |           |          |
| Acenaphthene                                                                      | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Acenaphthylene                                                                    | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Anthracene                                                                        | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Benzo(a)anthracene                                                                | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Benzo(a)pyrene                                                                    | <0.00020 |            | 0.00020 | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Benzo(a)pyrene                                                                    | <0.0010  |            | 0.0010  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Benzo(b)fluoranthene                                                              | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Benzo(g,h,i)perylene                                                              | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Surrogate: 2-Bromobenzotrifluoride                                                | 72.2     |            | 50-150  | %        | 04-SEP-19 | 05-SEP-19 | R4784129 |
| Chrom. to baseline at nC50                                                        | YES      |            |         |          | 04-SEP-19 | 05-SEP-19 | R4784129 |
| 3&4-Methylphenol                                                                  | <0.010   |            | 0.010   | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Cresols (total)                                                                   | <0.015   |            | 0.015   | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Cyanide, Weak Acid Diss                                                           | <0.10    |            | 0.10    | mg/L     |           | 04-SEP-19 | R4782817 |
| 2,4-Dichlorophenol                                                                | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| 2,4-Dinitrotoluene                                                                | <0.0040  |            | 0.0040  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Fluoride (F)                                                                      | <10      |            | 10      | mg/L     |           | 04-SEP-19 | R4783622 |
| Hexachlorobenzene                                                                 | <0.0040  |            | 0.0040  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Hexachlorobutadiene                                                               | <0.0040  |            | 0.0040  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Hexachloroethane                                                                  | <0.0040  |            | 0.0040  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| 2-Methylphenol                                                                    | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Nitrate and Nitrite as N                                                          | <4.0     |            | 4.0     | mg/L     |           | 04-SEP-19 | R4783622 |
| Nitrate-N                                                                         | <2.0     |            | 2.0     | mg/L     |           | 04-SEP-19 | R4783622 |
| Nitrite-N                                                                         | <2.0     |            | 2.0     | mg/L     |           | 04-SEP-19 | R4783622 |
| Nitrobenzene                                                                      | <0.0040  |            | 0.0040  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Pentachlorophenol                                                                 | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| 2,3,4,6-Tetrachlorophenol                                                         | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| 2,4,5-Trichlorophenol                                                             | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| 2,4,6-Trichlorophenol                                                             | <0.0050  |            | 0.0050  | mg/L     | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Surrogate: 2,4,6-Tribromophenol                                                   | 99.3     |            | 50-150  | %        | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Surrogate: 2-Fluorobiphenyl                                                       | 88.6     |            | 40-160  | %        | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Surrogate: Nitrobenzene d5                                                        | 96.5     |            | 50-150  | %        | 04-SEP-19 | 05-SEP-19 | R4783558 |
| Surrogate: p-Terphenyl d14                                                        | 109.3    |            | 60-140  | %        | 04-SEP-19 | 05-SEP-19 | R4783558 |
| TCLP Metals                                                                       |          |            |         |          |           |           |          |
| Arsenic (As)                                                                      | <0.050   |            | 0.050   | mg/L     |           | 04-SEP-19 | R4783179 |
| Barium (Ba)                                                                       | <0.50    |            | 0.50    | mg/L     |           | 04-SEP-19 | R4783179 |
| Boron (B)                                                                         | <2.5     |            | 2.5     | mg/L     |           | 04-SEP-19 | R4783179 |
| Cadmium (Cd)                                                                      | <0.0050  |            | 0.0050  | mg/L     |           | 04-SEP-19 | R4783179 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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### ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample Details/Parameters                                                         | Result  | Qualifier* | D.L.    | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------------------|---------|------------|---------|-------|-----------|-----------|----------|
| L2336707-1 TCLP- 20190827<br>Sampled By: AV on 27-AUG-19 @ 09:35<br>Matrix: WATER |         |            |         |       |           |           |          |
| TCLP Metals                                                                       |         |            |         |       |           |           |          |
| Chromium (Cr)                                                                     | <0.050  |            | 0.050   | mg/L  |           | 04-SEP-19 | R4783179 |
| Lead (Pb)                                                                         | <0.050  |            | 0.050   | mg/L  |           |           | R4783179 |
| Mercury (Hg)                                                                      | 0.00051 |            | 0.00010 | mg/L  |           | 04-SEP-19 | R4782708 |
| Selenium (Se)                                                                     | <0.025  |            | 0.025   | mg/L  |           | 04-SEP-19 |          |
| Silver (Ag)                                                                       | <0.0050 |            | 0.0050  | mg/L  |           | 04-SEP-19 |          |
| Uranium (U)                                                                       | <0.25   |            | 0.25    | mg/L  |           | 04-SEP-19 | R4783179 |
| TCLP VOCs                                                                         | 10.20   |            | 0.20    | 9/2   |           | 0102110   | 100110   |
| 1,1-Dichloroethylene                                                              | <0.025  |            | 0.025   | mg/L  |           | 05-SEP-19 | R4782965 |
| 1,2-Dichlorobenzene                                                               | <0.025  |            | 0.025   | mg/L  |           | 05-SEP-19 | R4782965 |
| 1,2-Dichloroethane                                                                | <0.025  |            | 0.025   | mg/L  |           | 05-SEP-19 | R4782965 |
| 1,4-Dichlorobenzene                                                               | <0.025  |            | 0.025   | mg/L  |           | 05-SEP-19 | R4782965 |
| Benzene                                                                           | <0.025  |            | 0.025   | mg/L  |           | 05-SEP-19 |          |
| Carbon tetrachloride                                                              | <0.025  |            | 0.025   | mg/L  |           | 05-SEP-19 | R4782965 |
| Chlorobenzene                                                                     | <0.025  |            | 0.025   | mg/L  |           | 05-SEP-19 | R4782965 |
| Chloroform                                                                        | <0.10   |            | 0.10    | mg/L  |           | 05-SEP-19 | R4782965 |
| Dichloromethane                                                                   | <0.50   |            | 0.50    | mg/L  |           | 05-SEP-19 | R4782965 |
| Methyl Ethyl Ketone                                                               | <1.0    |            | 1.0     | mg/L  |           | 05-SEP-19 | R4782965 |
| Tetrachloroethylene                                                               | <0.025  |            | 0.025   | mg/L  |           | 05-SEP-19 | R4782965 |
| Trichloroethylene                                                                 | <0.025  |            | 0.025   | mg/L  |           | 05-SEP-19 | R4782965 |
| Vinyl chloride                                                                    | <0.050  |            | 0.050   | mg/L  |           | 05-SEP-19 | R4782965 |
| Surrogate: 4-Bromofluorobenzene                                                   | 97.8    |            | 70-130  | %     |           | 05-SEP-19 | R4782965 |
| Volatile Organic Compounds                                                        |         |            |         |       |           |           |          |
| Surrogate: 1,4-Difluorobenzene                                                    | 98.9    |            | 70-130  | %     |           | 05-SEP-19 | R4782965 |
| Hydrocarbons                                                                      |         |            |         |       |           |           |          |
| F1 (C6-C10)                                                                       | <5.0    |            | 5.0     | mg/L  |           | 05-SEP-19 |          |
| F1-BTEX                                                                           | <5.0    |            | 5.0     | mg/L  |           | 05-SEP-19 |          |
| F2 (C10-C16)                                                                      | <0.10   |            | 0.10    | mg/L  |           | 05-SEP-19 |          |
| F2-Naphth                                                                         | <0.10   |            | 0.10    | mg/L  |           | 05-SEP-19 |          |
| F3 (C16-C34)                                                                      | <0.25   |            | 0.25    | mg/L  |           | 05-SEP-19 |          |
| F3-PAH                                                                            | <0.25   |            | 0.25    | mg/L  |           | 05-SEP-19 |          |
| F4 (C34-C50)                                                                      | <0.25   |            | 0.25    | mg/L  |           | 05-SEP-19 |          |
| Total Hydrocarbons (C6-C50)                                                       | <5.0    |            | 5.0     | mg/L  |           | 05-SEP-19 |          |
| Polycyclic Aromatic Hydrocarbons                                                  |         |            |         |       |           |           |          |
| Benzo(k)fluoranthene                                                              | <0.0050 |            | 0.0050  | mg/L  | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Chrysene                                                                          | <0.0050 |            | 0.0050  | mg/L  | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Dibenzo(ah)anthracene                                                             | <0.0050 |            | 0.0050  | mg/L  | 04-SEP-19 |           | R4783905 |
| Fluoranthene                                                                      | <0.0050 |            | 0.0050  | mg/L  | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Fluorene                                                                          | <0.0050 |            | 0.0050  | mg/L  | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Indeno(1,2,3-cd)pyrene                                                            | <0.0050 |            | 0.0050  | mg/L  | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Naphthalene                                                                       | <0.0050 |            | 0.0050  | mg/L  | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Phenanthrene                                                                      | <0.0050 |            | 0.0050  | mg/L  | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Pyrene                                                                            | <0.0050 |            | 0.0050  | mg/L  | 04-SEP-19 | 05-SEP-19 | R4783905 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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### ALS ENVIRONMENTAL ANALYTICAL REPORT

| Sample Details/Parameters                         | Result  | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|---------------------------------------------------|---------|------------|--------|-------|-----------|-----------|----------|
| L2336707-1 TCLP- 20190827                         |         |            |        |       |           |           |          |
| Sampled By: AV on 27-AUG-19 @ 09:35 Matrix: WATER |         |            |        |       |           |           |          |
| Matrix: WATER Polycyclic Aromatic Hydrocarbons    |         |            |        |       |           |           |          |
| Quinoline                                         | <0.0050 |            | 0.0050 | mg/L  | 04-SEP-19 | 05-SEP-19 | R4783905 |
| Surrogate: d10-Acenaphthene                       | 87.3    |            | 50-150 | %     | 04-SEP-19 | 05-SEP-19 |          |
| Surrogate: d12-Chrysene                           | 90.6    |            | 50-150 | %     | 04-SEP-19 | 05-SEP-19 |          |
| Surrogate: d8-Naphthalene                         | 89.0    |            | 50-150 | %     | 04-SEP-19 | 05-SEP-19 |          |
| Surrogate: d10-Phenanthrene                       | 93.2    |            | 50-150 | %     | 04-SEP-19 | 05-SEP-19 |          |
| Polychlorinated Biphenyls                         |         |            |        |       |           |           |          |
| Aroclor 1242                                      | <0.010  |            | 0.010  | ug/g  | 05-SEP-19 | 05-SEP-19 | R4783362 |
| Aroclor 1248                                      | <0.010  |            | 0.010  | ug/g  | 05-SEP-19 | 05-SEP-19 | R4783362 |
| Aroclor 1254                                      | <0.010  |            | 0.010  | ug/g  | 05-SEP-19 | 05-SEP-19 | R4783362 |
| Aroclor 1260                                      | <0.010  |            | 0.010  | ug/g  | 05-SEP-19 | 05-SEP-19 | R4783362 |
| Total PCBs                                        | <0.020  |            | 0.020  | ug/g  | 05-SEP-19 | 05-SEP-19 | R4783362 |
| Surrogate: d14-Terphenyl                          | 103.0   |            | 60-140 | %     | 05-SEP-19 | 05-SEP-19 | R4783362 |
|                                                   |         |            |        |       |           |           |          |
|                                                   |         |            |        |       |           |           |          |
|                                                   |         |            |        |       |           |           |          |
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|                                                   |         |            |        |       |           |           |          |
|                                                   |         |            |        |       |           |           |          |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Reference Information

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### Neierence informati

QC Samples with Qualifiers & Comments:

| QC Type Description | Parameter | Qualifier | Applies to Sample Number(s) |
|---------------------|-----------|-----------|-----------------------------|
| Matrix Spike        | Quinoline | MS-B      | L2336707-1                  |

#### Sample Parameter Qualifier key listed:

Qualifier Description

MS-B Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.

#### **Test Method References:**

| ALS Test Code                                                                                                                               | Matrix | Test Description    | Method Reference** |  |  |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------|---------------------|--------------------|--|--|--|--|--|--|
| BNA-TCLP-WT                                                                                                                                 | Waste  | BNAs for O. Reg 347 | SW846 8270         |  |  |  |  |  |  |
| Samples are leached according to TCLP protocol and then the aqueous leachate is extracted and the resulting extracts are analyzed on GC/MSD |        |                     |                    |  |  |  |  |  |  |

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.

ETL-TVH,TEH-TCLP-WT Waste CCME Total Hydrocarbons CCME CWS-PHC, Pub #1310, Dec 2001

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.

F1-TCLP-WT Waste O. Reg 347 TCLP leachable F1 SW846 8260

F2-F4-TCLP-WT Waste O. Reg 347 TCLP leachable F2-F4 MOE DECPH-E3398/CCME TIER 1

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).

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 (modified from EPA Method 6020B).

MOISTURE-WT Soil % Moisture CCME PHC in Soil - Tier 1 (mod)

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.

PAH-TCLP-WT Waste PAH for O. Reg 347 SW846 8270 (PAH)

Samples are leached according to TCLP protocol and then the aqueous leachate is extracted and the resulting extracts are analyzed on GC/MSD. Depending on the analytical GC/MS column used benzo(j)fluoranthene may chromatographically co-elute with benzo(b)fluoranthene or benzo(k)fluoranthene.

PCB-511-WT Soil

Soil PCB

PCB-O.Reg 153/04 (July 2011)

SW846 3510/8082

Reference Information

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An aliquot of a solid sample is extracted with a solvent, extract is cleaned up and analyzed on the 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).

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:

| <b>Laboratory Definition Code</b> | 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.

Applytical results in uniqued test reports with the DRAFT watermark are subject to cha

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Workorder: L2336707 Report Date: 06-SEP-19 Page 1 of 11

CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

| Test                               |                        | Matrix | Reference                   | Result  | Qualifier | Units        | RPD | Limit  | Analyzed               |
|------------------------------------|------------------------|--------|-----------------------------|---------|-----------|--------------|-----|--------|------------------------|
| MOISTURE-WT                        |                        | Soil   |                             |         |           |              |     |        |                        |
|                                    | 1774952                |        |                             |         |           |              |     |        |                        |
| <b>WG3146518-3</b> % Moisture      | DUP                    |        | <b>L2337674-3</b><br>4.03   | 3.93    |           | %            | 2.7 | 20     | 29-AUG-19              |
| <b>WG3146518-2</b><br>% Moisture   | LCS                    |        |                             | 100.8   |           | %            |     | 90-110 | 29-AUG-19              |
| <b>WG3146518-1</b> % Moisture      | МВ                     |        |                             | <0.10   |           | %            |     | 0.1    | 29-AUG-19              |
| PCB-511-WT                         |                        | Soil   |                             |         |           |              |     |        |                        |
| Batch R4                           | 783362                 |        |                             |         |           |              |     |        |                        |
| WG3146466-3                        | DUP                    |        | WG3146466-5                 |         |           |              |     |        |                        |
| Aroclor 1242                       |                        |        | <0.010                      | <0.010  | RPD-NA    | ug/g         | N/A | 40     | 05-SEP-19              |
| Aroclor 1248                       |                        |        | <0.010                      | <0.010  | RPD-NA    | ug/g         | N/A | 40     | 05-SEP-19              |
| Aroclor 1254                       |                        |        | <0.010                      | <0.010  | RPD-NA    | ug/g         | N/A | 40     | 05-SEP-19              |
| Aroclor 1260                       |                        |        | <0.010                      | <0.010  | RPD-NA    | ug/g         | N/A | 40     | 05-SEP-19              |
| WG3146466-2<br>Aroclor 1242        | LCS                    |        |                             | 106.9   |           | %            |     | 60-140 | 05-SEP-19              |
| Aroclor 1248                       |                        |        |                             | 90.8    |           | %            |     | 60-140 | 05-SEP-19              |
| Aroclor 1254                       |                        |        |                             | 102.6   |           | %            |     | 60-140 | 05-SEP-19              |
| Aroclor 1260                       |                        |        |                             | 109.4   |           | %            |     | 60-140 | 05-SEP-19              |
| <b>WG3146466-1</b><br>Aroclor 1242 | MB                     |        |                             | <0.010  |           | ug/g         |     | 0.01   | 05 SED 40              |
| Aroclor 1248                       |                        |        |                             | <0.010  |           | ug/g<br>ug/g |     | 0.01   | 05-SEP-19              |
| Aroclor 1254                       |                        |        |                             | <0.010  |           | ug/g<br>ug/g |     | 0.01   | 05-SEP-19              |
| Aroclor 1260                       |                        |        |                             | <0.010  |           | ug/g<br>ug/g |     | 0.01   | 05-SEP-19<br>05-SEP-19 |
| Surrogate: d14-                    | Ternhen                | vl     |                             | 88.4    |           | w<br>%       |     | 60-140 | 05-SEP-19              |
| WG3146466-4                        | MS                     | יע     | WG3146466-5                 |         |           | 70           |     | 00 140 | 05-3EF-19              |
| Aroclor 1242                       | IVIO                   |        | VV G3 140400-3              | 106.3   |           | %            |     | 60-140 | 05-SEP-19              |
| Aroclor 1254                       |                        |        |                             | 102.6   |           | %            |     | 60-140 | 05-SEP-19              |
| Aroclor 1260                       |                        |        |                             | 107.1   |           | %            |     | 60-140 | 05-SEP-19              |
| BNA-TCLP-WT                        |                        | Waste  |                             |         |           |              |     |        |                        |
| Batch R4                           | 783558                 |        |                             |         |           |              |     |        |                        |
| <b>WG3151696-4</b> 2,3,4,6-Tetrach | <b>DUP</b><br>lorophen | ol     | <b>WG3151696-3</b> < 0.0050 | <0.0050 | RPD-NA    | mg/L         | N/A | 50     | 05-SEP-19              |
| 2,4,5-Trichlorop                   | henol                  |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L         | N/A | 50     | 05-SEP-19              |
| 2,4,6-Trichlorop                   | henol                  |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L         | N/A | 50     | 05-SEP-19              |
| 2,4-Dichlorophe                    | enol                   |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L         | N/A | 50     | 05-SEP-19              |
| 2,4-Dinitrotolue                   |                        |        | <0.0040                     | <0.0040 |           | mg/L         |     |        | 05-SEP-19              |
|                                    |                        |        |                             |         |           | Ŭ            |     |        | ,                      |



Workorder: L2336707 Report Date: 06-SEP-19 Page 2 of 11

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                        | Matrix | Reference   | Result   | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------------|--------|-------------|----------|-----------|-------|-----|--------|-----------|
| BNA-TCLP-WT                                 | Waste  |             |          |           |       |     |        |           |
| Batch R4783558                              |        |             |          |           |       |     |        |           |
| WG3151696-4 DUP                             |        | WG3151696-3 |          |           | ,,    |     |        |           |
| 2,4-Dinitrotoluene                          |        | <0.0040     | <0.0040  | RPD-NA    | mg/L  | N/A | 50     | 05-SEP-19 |
| 2-Methylphenol                              |        | <0.0050     | <0.0050  | RPD-NA    | mg/L  | N/A | 50     | 05-SEP-19 |
| 3&4-Methylphenol                            |        | <0.010      | <0.010   | RPD-NA    | mg/L  | N/A | 50     | 05-SEP-19 |
| Benzo(a)pyrene                              |        | <0.00020    | <0.00020 | RPD-NA    | mg/L  | N/A | 50     | 05-SEP-19 |
| Hexachlorobenzene                           |        | <0.0040     | <0.0040  | RPD-NA    | mg/L  | N/A | 50     | 05-SEP-19 |
| Hexachlorobutadiene                         |        | <0.0040     | <0.0040  | RPD-NA    | mg/L  | N/A | 50     | 05-SEP-19 |
| Hexachloroethane                            |        | <0.0040     | <0.0040  | RPD-NA    | mg/L  | N/A | 50     | 05-SEP-19 |
| Nitrobenzene                                |        | <0.0040     | <0.0040  | RPD-NA    | mg/L  | N/A | 50     | 05-SEP-19 |
| Pentachlorophenol                           |        | <0.0050     | <0.0050  | RPD-NA    | mg/L  | N/A | 50     | 05-SEP-19 |
| WG3151696-2 LCS<br>2,3,4,6-Tetrachlorophene | ol     |             | 123.1    |           | %     |     | 60-140 | 05-SEP-19 |
| 2,4,5-Trichlorophenol                       |        |             | 119.6    |           | %     |     | 60-140 | 05-SEP-19 |
| 2,4,6-Trichlorophenol                       |        |             | 118.3    |           | %     |     | 60-140 | 05-SEP-19 |
| 2,4-Dichlorophenol                          |        |             | 114.4    |           | %     |     | 60-140 | 05-SEP-19 |
| 2,4-Dinitrotoluene                          |        |             | 129.4    |           | %     |     | 50-150 | 05-SEP-19 |
| 2-Methylphenol                              |        |             | 97.6     |           | %     |     | 60-140 | 05-SEP-19 |
| 3&4-Methylphenol                            |        |             | 95.7     |           | %     |     | 60-140 | 05-SEP-19 |
| Benzo(a)pyrene                              |        |             | 101.1    |           | %     |     | 60-140 | 05-SEP-19 |
| Hexachlorobenzene                           |        |             | 99.6     |           | %     |     | 60-140 | 05-SEP-19 |
| Hexachlorobutadiene                         |        |             | 94.8     |           | %     |     | 40-130 | 05-SEP-19 |
| Hexachloroethane                            |        |             | 90.8     |           | %     |     | 40-130 | 05-SEP-19 |
| Nitrobenzene                                |        |             | 103.5    |           | %     |     | 60-140 | 05-SEP-19 |
| Pentachlorophenol                           |        |             | 148.4    |           | %     |     | 50-160 | 05-SEP-19 |
| WG3151696-1 MB                              |        |             |          |           |       |     |        |           |
| 2,3,4,6-Tetrachlorophene                    | ol     |             | <0.0050  |           | mg/L  |     | 0.005  | 05-SEP-19 |
| 2,4,5-Trichlorophenol                       |        |             | <0.0050  |           | mg/L  |     | 0.005  | 05-SEP-19 |
| 2,4,6-Trichlorophenol                       |        |             | <0.0050  |           | mg/L  |     | 0.005  | 05-SEP-19 |
| 2,4-Dichlorophenol                          |        |             | <0.0050  |           | mg/L  |     | 0.005  | 05-SEP-19 |
| 2,4-Dinitrotoluene                          |        |             | <0.0040  |           | mg/L  |     | 0.004  | 05-SEP-19 |
| 2-Methylphenol                              |        |             | <0.0050  |           | mg/L  |     | 0.005  | 05-SEP-19 |
| 3&4-Methylphenol                            |        |             | <0.010   |           | mg/L  |     | 0.01   | 05-SEP-19 |
| Benzo(a)pyrene                              |        |             | <0.00020 |           | mg/L  |     | 0.0002 | 05-SEP-19 |
| Hexachlorobenzene                           |        |             | <0.0040  |           | mg/L  |     | 0.004  | 05-SEP-19 |
| Hexachlorobutadiene                         |        |             | <0.0040  |           | mg/L  |     | 0.004  | 05-SEP-19 |



Workorder: L2336707 Report Date: 06-SEP-19 Page 3 of 11

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

| Test                                                      | Matrix    | Reference               | Result        | Qualifier | Units  | RPD | Limit            | Analyzed  |
|-----------------------------------------------------------|-----------|-------------------------|---------------|-----------|--------|-----|------------------|-----------|
| BNA-TCLP-WT                                               | Waste     |                         |               |           |        |     |                  |           |
| Batch R4783556<br>WG3151696-1 MB                          | 3         |                         |               |           | 4      |     | 0.004            |           |
| Hexachloroethane                                          |           |                         | <0.0040       |           | mg/L   |     | 0.004            | 05-SEP-19 |
| Nitrobenzene                                              |           |                         | <0.0040       |           | mg/L   |     | 0.004            | 05-SEP-19 |
| Pentachlorophenol                                         | - dF      |                         | <0.0050       |           | mg/L   |     | 0.005            | 05-SEP-19 |
| Surrogate: Nitrobenzer                                    |           |                         | 96.0          |           | %      |     | 50-150<br>40-160 | 05-SEP-19 |
| Surrogate: 2-Fluorobip                                    | •         |                         | 92.0          |           |        |     | 60-140           | 05-SEP-19 |
| Surrogate: p-Terpheny                                     |           |                         | 112.1<br>98.8 |           | %<br>% |     | 50-140           | 05-SEP-19 |
| Surrogate: 2,4,6-Tribro                                   | тторпеног | W00454000               |               |           | 70     |     | 50-150           | 05-SEP-19 |
| <b>WG3151696-5 MS</b> 2,3,4,6-Tetrachlorophe              | nol       | WG3151696-3             | 124.9         |           | %      |     | 50-150           | 06-SEP-19 |
| 2,4,5-Trichlorophenol                                     |           |                         | 122.5         |           | %      |     | 50-150           | 06-SEP-19 |
| 2,4,6-Trichlorophenol                                     |           |                         | 122.0         |           | %      |     | 50-150           | 06-SEP-19 |
| 2,4-Dichlorophenol                                        |           |                         | 116.4         |           | %      |     | 50-150           | 06-SEP-19 |
| 2,4-Dinitrotoluene                                        |           |                         | 132.7         |           | %      |     | 50-150           | 06-SEP-19 |
| 2-Methylphenol                                            |           |                         | 99.1          |           | %      |     | 50-150           | 06-SEP-19 |
| 3&4-Methylphenol                                          |           |                         | 98.4          |           | %      |     | 50-150           | 06-SEP-19 |
| Benzo(a)pyrene                                            |           |                         | 113.8         |           | %      |     | 50-150           | 06-SEP-19 |
| Hexachlorobenzene                                         |           |                         | 95.8          |           | %      |     | 40-150           | 06-SEP-19 |
| Hexachlorobutadiene                                       |           |                         | 89.1          |           | %      |     | 40-150           | 06-SEP-19 |
| Hexachloroethane                                          |           |                         | 86.2          |           | %      |     | 40-150           | 06-SEP-19 |
| Nitrobenzene                                              |           |                         | 109.3         |           | %      |     | 50-150           | 06-SEP-19 |
| Pentachlorophenol                                         |           |                         | 137.1         |           | %      |     | 50-150           | 06-SEP-19 |
| CN-TCLP-WT                                                | Waste     |                         |               |           |        |     |                  |           |
| Batch R4782817<br>WG3151276-3 DUP<br>Cyanide, Weak Acid D |           | <b>L2339020-1</b> <0.10 | <0.10         | RPD-NA    | mg/L   | N/A | 50               | 04-SEP-19 |
| WG3151276-2 LCS<br>Cyanide, Weak Acid D                   | iss       |                         | 103.1         |           | %      |     | 70-130           | 04-SEP-19 |
| WG3151276-1 MB<br>Cyanide, Weak Acid D                    | iss       |                         | <0.10         |           | mg/L   |     | 0.1              | 04-SEP-19 |
| WG3151276-4 MS<br>Cyanide, Weak Acid D                    | iss       | L2339020-1              | 100.3         |           | %      |     | 50-140           | 04-SEP-19 |
| F-TCI P-WT                                                | Waste     |                         |               |           |        |     |                  |           |

F-TCLP-WT Waste



Workorder: L2336707 Report Date: 06-SEP-19 Page 4 of 11

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                     | Matrix        | Reference             | Result   | Qualifier | Units | RPD          | Limit  | Analyzed   |
|------------------------------------------|---------------|-----------------------|----------|-----------|-------|--------------|--------|------------|
| F-TCLP-WT                                | Waste         |                       |          |           |       |              |        |            |
| Batch R4783622                           |               |                       |          |           |       |              |        |            |
| <b>WG3151929-3 DUP</b> Fluoride (F)      |               | <b>L2336707-1</b> <10 | <10      | DDD NA    | ma/l  | NI/A         | 20     | 04.050.40  |
| ` ,                                      |               | <10                   | <10      | RPD-NA    | mg/L  | N/A          | 30     | 04-SEP-19  |
| WG3151929-2 LCS<br>Fluoride (F)          |               |                       | 100.6    |           | %     |              | 70-130 | 04-SEP-19  |
| <b>WG3151929-1 MB</b><br>Fluoride (F)    |               |                       | <10      |           | mg/L  |              | 10     | 04-SEP-19  |
| <b>WG3151929-4 MS</b><br>Fluoride (F)    |               | L2336707-1            | 100.9    |           | %     |              | 50.450 | 04.050.40  |
|                                          |               |                       | 100.9    |           | 70    |              | 50-150 | 04-SEP-19  |
| F2-F4-TCLP-WT                            | Waste         |                       |          |           |       |              |        |            |
| Batch R4784129                           |               |                       |          |           |       |              |        |            |
| WG3152253-1 MB<br>Surrogate: 2-Bromoben: | zotrifluoride |                       | 78.3     |           | %     |              | 50-150 | 05-SEP-19  |
| WG3152253-3 MB                           |               |                       |          |           |       |              |        | 00 021 10  |
| Surrogate: 2-Bromoben:                   | zotrifluoride |                       | 77.2     |           | %     |              | 50-150 | 05-SEP-19  |
| HG-TCLP-WT                               | Waste         |                       |          |           |       |              |        |            |
| Batch R4782708                           |               |                       |          |           |       |              |        |            |
| WG3151282-3 DUP                          |               | L2337745-1            | 0.00040  | 555       | /l    | 21/2         | 50     |            |
| Mercury (Hg)                             |               | <0.00010              | <0.00010 | RPD-NA    | mg/L  | N/A          | 50     | 04-SEP-19  |
| WG3151282-2 LCS<br>Mercury (Hg)          |               |                       | 98.1     |           | %     |              | 70-130 | 04-SEP-19  |
| <b>WG3151282-1 MB</b><br>Mercury (Hg)    |               |                       | <0.00010 |           | mg/L  |              | 0.0001 | 04.050.40  |
| WG3151282-4 MS                           |               | L2337745-1            | <0.00010 |           | mg/L  |              | 0.0001 | 04-SEP-19  |
| Mercury (Hg)                             |               | L233/743-1            | 96.5     |           | %     |              | 50-140 | 04-SEP-19  |
| MET-TCLP-WT                              | Waste         |                       |          |           |       |              |        |            |
| Batch R4783179                           |               |                       |          |           |       |              |        |            |
| WG3151284-4 DUP                          |               | WG3151284-3           | 0.0050   |           | a./I  | <b>N</b> 1/A | 50     | 0.4.0ED 45 |
| Silver (Ag)                              |               | <0.0050               | <0.0050  | RPD-NA    | mg/L  | N/A          | 50     | 04-SEP-19  |
| Arsenic (As)                             |               | <0.050                | <0.050   | RPD-NA    | mg/L  | N/A          | 50     | 04-SEP-19  |
| Boron (B)                                |               | <2.5                  | <2.5     | RPD-NA    | mg/L  | N/A          | 50     | 04-SEP-19  |
| Barium (Ba)                              |               | 0.61                  | 0.61     |           | mg/L  | 0.4          | 50     | 04-SEP-19  |
| Cadmium (Cd)                             |               | <0.0050               | <0.0050  | RPD-NA    | mg/L  | N/A          | 50     | 04-SEP-19  |
| Chromium (Cr)                            |               | <0.050                | <0.050   | RPD-NA    | mg/L  | N/A          | 50     | 04-SEP-19  |
| Lead (Pb)                                |               | <0.050                | <0.050   | RPD-NA    | mg/L  | N/A          | 50     | 04-SEP-19  |
| Selenium (Se)                            |               | <0.025                | <0.025   | RPD-NA    | mg/L  | N/A          | 50     | 04-SEP-19  |
| Uranium (U)                              |               | <0.25                 | <0.25    | RPD-NA    | mg/L  | N/A          | 50     | 04-SEP-19  |



Workorder: L2336707 Report Date: 06-SEP-19 Page 5 of 11

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                 | Matrix   | Reference              | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------|----------|------------------------|---------|-----------|-------|-----|--------|-----------|
| MET-TCLP-WT                          | Waste    |                        |         |           |       |     |        | _         |
| Batch R47831                         | 79       |                        |         |           |       |     |        |           |
| <b>WG3151284-2 LC</b><br>Silver (Ag) | S        |                        | 97.4    |           | %     |     | 70-130 | 04-SEP-19 |
| Arsenic (As)                         |          |                        | 98.1    |           | %     |     | 70-130 | 04-SEP-19 |
| Boron (B)                            |          |                        | 90.6    |           | %     |     | 70-130 | 04-SEP-19 |
| Barium (Ba)                          |          |                        | 100.6   |           | %     |     | 70-130 | 04-SEP-19 |
| Cadmium (Cd)                         |          |                        | 95.3    |           | %     |     | 70-130 | 04-SEP-19 |
| Chromium (Cr)                        |          |                        | 98.0    |           | %     |     | 70-130 | 04-SEP-19 |
| Lead (Pb)                            |          |                        | 98.5    |           | %     |     | 70-130 | 04-SEP-19 |
| Selenium (Se)                        |          |                        | 94.0    |           | %     |     | 70-130 | 04-SEP-19 |
| Uranium (U)                          |          |                        | 96.0    |           | %     |     | 70-130 | 04-SEP-19 |
| <b>WG3151284-1 MB</b><br>Silver (Ag) | 1        |                        | <0.0050 |           | mg/L  |     | 0.005  | 04-SEP-19 |
| Arsenic (As)                         |          |                        | <0.050  |           | mg/L  |     | 0.05   | 04-SEP-19 |
| Boron (B)                            |          |                        | <2.5    |           | mg/L  |     | 2.5    | 04-SEP-19 |
| Barium (Ba)                          |          |                        | <0.50   |           | mg/L  |     | 0.5    | 04-SEP-19 |
| Cadmium (Cd)                         |          |                        | <0.0050 |           | mg/L  |     | 0.005  | 04-SEP-19 |
| Chromium (Cr)                        |          |                        | <0.050  |           | mg/L  |     | 0.05   | 04-SEP-19 |
| Lead (Pb)                            |          |                        | <0.050  |           | mg/L  |     | 0.05   | 04-SEP-19 |
| Selenium (Se)                        |          |                        | <0.025  |           | mg/L  |     | 0.025  | 04-SEP-19 |
| Uranium (U)                          |          |                        | <0.25   |           | mg/L  |     | 0.25   | 04-SEP-19 |
| <b>WG3151284-5 MS</b><br>Silver (Ag) | <b>;</b> | WG3151284-3            | 116.5   |           | %     |     | 50-140 | 04-SEP-19 |
| Arsenic (As)                         |          |                        | 100.9   |           | %     |     | 50-140 | 04-SEP-19 |
| Boron (B)                            |          |                        | 89.5    |           | %     |     | 50-140 | 04-SEP-19 |
| Barium (Ba)                          |          |                        | 106.2   |           | %     |     | 50-140 | 04-SEP-19 |
| Cadmium (Cd)                         |          |                        | 99.0    |           | %     |     | 50-140 | 04-SEP-19 |
| Chromium (Cr)                        |          |                        | 101.3   |           | %     |     | 50-140 | 04-SEP-19 |
| Lead (Pb)                            |          |                        | 101.6   |           | %     |     | 50-140 | 04-SEP-19 |
| Selenium (Se)                        |          |                        | 99.8    |           | %     |     | 50-140 | 04-SEP-19 |
| Uranium (U)                          |          |                        | 99.6    |           | %     |     | 50-140 | 04-SEP-19 |
| N2N3-TCLP-WT                         | Waste    |                        |         |           |       |     |        |           |
| Batch R47836                         |          |                        |         |           |       |     |        |           |
| WG3151929-3 DU<br>Nitrate-N          |          | <b>L2336707-1</b> <2.0 | <2.0    | RPD-NA    | mg/L  | N/A | 25     | 04-SEP-19 |
| Nitrite-N                            |          | <2.0                   | <2.0    | RPD-NA    | mg/L  | N/A | 25     | 04-SEP-19 |



Workorder: L2336707 Report Date: 06-SEP-19 Page 6 of 11

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                            | Matrix | Reference                   | Result  | Qualifier | Units | RPD        | Limit  | Analyzed               |
|---------------------------------|--------|-----------------------------|---------|-----------|-------|------------|--------|------------------------|
| N2N3-TCLP-WT                    | Waste  |                             |         |           |       |            |        |                        |
| Batch R4783622                  |        |                             |         |           |       |            |        |                        |
| WG3151929-2 LCS<br>Nitrate-N    |        |                             | 101.4   |           | %     |            | 70-130 | 04-SEP-19              |
| Nitrite-N                       |        |                             | 99.9    |           | %     |            | 70-130 | 04-SEP-19              |
| WG3151929-1 MB                  |        |                             |         |           |       |            |        |                        |
| Nitrate-N<br>Nitrite-N          |        |                             | <2.0    |           | mg/L  |            | 2      | 04-SEP-19              |
| WG3151929-4 MS                  |        | L2336707-1                  | <2.0    |           | mg/L  |            | 2      | 04-SEP-19              |
| Nitrate-N                       |        | L2330/0/-1                  | 102.4   |           | %     |            | 50-150 | 04-SEP-19              |
| Nitrite-N                       |        |                             | 100.2   |           | %     |            | 50-150 | 04-SEP-19              |
| PAH-TCLP-WT                     | Waste  |                             |         |           |       |            |        |                        |
| Batch R4783905                  |        |                             |         |           |       |            |        |                        |
| WG3152253-5 DUP Acenaphthene    |        | <b>WG3152253-4</b> < 0.0050 | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Acenaphthylene                  |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A<br>N/A | 50     | 05-SEP-19<br>05-SEP-19 |
| Anthracene                      |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Benzo(a)anthracene              |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Benzo(a)pyrene                  |        | <0.0010                     | <0.0010 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Benzo(b)fluoranthene            |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Benzo(g,h,i)perylene            |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Benzo(k)fluoranthene            |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Chrysene                        |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Dibenzo(ah)anthracene           |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Fluoranthene                    |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Fluorene                        |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Indeno(1,2,3-cd)pyrene          |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Naphthalene                     |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Phenanthrene                    |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Pyrene                          |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| Quinoline                       |        | <0.0050                     | <0.0050 | RPD-NA    | mg/L  | N/A        | 50     | 05-SEP-19              |
| WG3152253-2 LCS<br>Acenaphthene |        |                             | 106.2   |           | %     |            | 50-130 | 05-SEP-19              |
| Acenaphthylene                  |        |                             | 104.9   |           | %     |            | 50-130 | 05-SEP-19              |
| Anthracene                      |        |                             | 101.8   |           | %     |            | 50-130 | 05-SEP-19              |
| Benzo(a)anthracene              |        |                             | 104.9   |           | %     |            | 50-140 | 05-SEP-19              |
| Benzo(a)pyrene                  |        |                             | 95.6    |           | %     |            | 60-140 | 05-SEP-19              |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                        | Matrix | Reference | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|-----------------------------|--------|-----------|---------|-----------|-------|-----|--------|-----------|
| PAH-TCLP-WT                 | Waste  |           |         |           |       |     |        |           |
| Batch R4783905              |        |           |         |           |       |     |        |           |
| WG3152253-2 LCS             |        |           | 00.4    |           | %     |     | 50.440 |           |
| Benzo(b)fluoranthene        |        |           | 98.4    |           |       |     | 50-140 | 05-SEP-19 |
| Benzo(g,h,i)perylene        |        |           | 107.1   |           | %     |     | 50-140 | 05-SEP-19 |
| Benzo(k)fluoranthene        |        |           | 104.9   |           | %     |     | 50-150 | 05-SEP-19 |
| Chrysene                    |        |           | 105.2   |           | %     |     | 50-140 | 05-SEP-19 |
| Dibenzo(ah)anthracene       |        |           | 104.1   |           | %     |     | 50-140 | 05-SEP-19 |
| Fluoranthene                |        |           | 101.8   |           | %     |     | 50-150 | 05-SEP-19 |
| Fluorene                    |        |           | 105.5   |           | %     |     | 50-150 | 05-SEP-19 |
| Indeno(1,2,3-cd)pyrene      |        |           | 108.3   |           | %     |     | 50-140 | 05-SEP-19 |
| Naphthalene                 |        |           | 103.0   |           | %     |     | 50-130 | 05-SEP-19 |
| Phenanthrene                |        |           | 104.6   |           | %     |     | 50-130 | 05-SEP-19 |
| Pyrene                      |        |           | 102.9   |           | %     |     | 50-140 | 05-SEP-19 |
| Quinoline                   |        |           | 147.8   |           | %     |     | 50-150 | 05-SEP-19 |
| WG3152253-1 MB Acenaphthene |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Acenaphthylene              |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Anthracene                  |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Benzo(a)anthracene          |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Benzo(a)pyrene              |        |           | <0.0010 |           | mg/L  |     | 0.001  | 05-SEP-19 |
| Benzo(b)fluoranthene        |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Benzo(g,h,i)perylene        |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Benzo(k)fluoranthene        |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Chrysene                    |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Dibenzo(ah)anthracene       |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Fluoranthene                |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Fluorene                    |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Indeno(1,2,3-cd)pyrene      |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Naphthalene                 |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Phenanthrene                |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Pyrene                      |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Quinoline                   |        |           | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Surrogate: d8-Naphthale     | ene    |           | 103.2   |           | %     |     | 50-150 | 05-SEP-19 |
| Surrogate: d10-Phenant      | hrene  |           | 107.8   |           | %     |     | 50-150 | 05-SEP-19 |
| Surrogate: d12-Chrysen      |        |           | 102.0   |           | %     |     | 50-150 | 05-SEP-19 |
| Surrogate: d10-Acenaph      |        |           | 99.2    |           | %     |     | 50-150 | 05-SEP-19 |
| · ·                         |        |           |         |           |       |     |        | · · ·     |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                | Matrix    | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------|-----------|-------------|---------|-----------|-------|-----|--------|-----------|
| PAH-TCLP-WT         | Waste     |             |         |           |       |     |        |           |
| Batch R4783         | 905       |             |         |           |       |     |        |           |
| WG3152253-3 MI      | В         |             |         |           |       |     |        |           |
| Acenaphthene        |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Acenaphthylene      |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Anthracene          |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Benzo(a)anthracene  | Э         |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Benzo(a)pyrene      |           |             | <0.0010 |           | mg/L  |     | 0.001  | 05-SEP-19 |
| Benzo(b)fluoranther |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Benzo(g,h,i)perylen | е         |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Benzo(k)fluoranther | ne        |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Chrysene            |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Dibenzo(ah)anthrac  | ene       |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Fluoranthene        |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Fluorene            |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Indeno(1,2,3-cd)pyr | ene       |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Naphthalene         |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Phenanthrene        |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Pyrene              |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Quinoline           |           |             | <0.0050 |           | mg/L  |     | 0.005  | 05-SEP-19 |
| Surrogate: d8-Naph  | thalene   |             | 94.3    |           | %     |     | 50-150 | 05-SEP-19 |
| Surrogate: d10-Phe  | nanthrene |             | 98.7    |           | %     |     | 50-150 | 05-SEP-19 |
| Surrogate: d12-Chr  | ysene     |             | 93.3    |           | %     |     | 50-150 | 05-SEP-19 |
| Surrogate: d10-Ace  | naphthene |             | 91.3    |           | %     |     | 50-150 | 05-SEP-19 |
| WG3152253-6 MS      | S         | WG3152253-4 |         |           |       |     |        |           |
| Acenaphthene        |           |             | 107.8   |           | %     |     | 50-150 | 05-SEP-19 |
| Acenaphthylene      |           |             | 108.2   |           | %     |     | 50-150 | 05-SEP-19 |
| Anthracene          |           |             | 111.5   |           | %     |     | 50-150 | 05-SEP-19 |
| Benzo(a)anthracene  | Э         |             | 90.8    |           | %     |     | 50-150 | 05-SEP-19 |
| Benzo(a)pyrene      |           |             | 77.4    |           | %     |     | 50-150 | 05-SEP-19 |
| Benzo(b)fluoranther | ne        |             | 80.6    |           | %     |     | 50-150 | 05-SEP-19 |
| Benzo(g,h,i)perylen | е         |             | 80.3    |           | %     |     | 50-150 | 05-SEP-19 |
| Benzo(k)fluoranther | ne        |             | 83.4    |           | %     |     | 50-150 | 05-SEP-19 |
| Chrysene            |           |             | 93.5    |           | %     |     | 50-150 | 05-SEP-19 |
| Dibenzo(ah)anthrac  | ene       |             | 77.7    |           | %     |     | 50-150 | 05-SEP-19 |
| Fluoranthene        |           |             | 99.9    |           | %     |     | 50-150 | 05-SEP-19 |
| Fluorene            |           |             | 106.1   |           | %     |     | 50-150 | 05-SEP-19 |
|                     |           |             |         |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                    | Matrix | Reference   | Result           | Qualifier | Units      | RPD | Limit          | Analyzed  |
|-----------------------------------------|--------|-------------|------------------|-----------|------------|-----|----------------|-----------|
| PAH-TCLP-WT                             | Waste  |             |                  |           |            |     |                |           |
| Batch R4783905<br>WG3152253-6 MS        |        | WG3152253-4 |                  |           |            |     |                |           |
| Indeno(1,2,3-cd)pyrene                  |        |             | 81.8             |           | %          |     | 50-150         | 05-SEP-19 |
| Naphthalene                             |        |             | 110.4            |           | %          |     | 50-150         | 05-SEP-19 |
| Phenanthrene                            |        |             | 108.4            |           | %          |     | 50-150         | 05-SEP-19 |
| Pyrene                                  |        |             | 100.9            |           | %          |     | 50-150         | 05-SEP-19 |
| Quinoline                               |        |             | N/A              | MS-B      | %          |     | 50-150         | 05-SEP-19 |
| VOC-TCLP-WT                             | Waste  |             |                  |           |            |     |                |           |
| Batch R4782965                          |        |             |                  |           |            |     |                |           |
| WG3150015-1 LCS<br>1,1-Dichloroethylene |        |             | 100.8            |           | %          |     | 70-130         | 04-SEP-19 |
| 1,2-Dichlorobenzene                     |        |             | 106.0            |           | %          |     | 70-130         | 04-SEP-19 |
| 1,2-Dichloroethane                      |        |             | 92.8             |           | %          |     | 70-130         | 04-SEP-19 |
| 1,4-Dichlorobenzene                     |        |             | 111.9            |           | %          |     | 70-130         | 04-SEP-19 |
| Benzene                                 |        |             | 106.8            |           | %          |     | 70-130         | 04-SEP-19 |
| Carbon tetrachloride                    |        |             | 119.2            |           | %          |     | 60-140         | 04-SEP-19 |
| Chlorobenzene                           |        |             | 105.2            |           | %          |     | 70-130         | 04-SEP-19 |
| Chloroform                              |        |             | 104.8            |           | %          |     | 70-130         | 04-SEP-19 |
| Dichloromethane                         |        |             | 98.4             |           | %          |     | 70-130         | 04-SEP-19 |
| Methyl Ethyl Ketone                     |        |             | 72.8             |           | %          |     | 50-150         | 04-SEP-19 |
| Tetrachloroethylene                     |        |             | 116.5            |           | %          |     | 70-130         | 04-SEP-19 |
| Trichloroethylene                       |        |             | 119.7            |           | %          |     | 70-130         | 04-SEP-19 |
| Vinyl chloride                          |        |             | 114.4            |           | %          |     | 60-130         | 04-SEP-19 |
| WG3150015-2 MB                          |        |             | 0.005            |           | <i>(</i> ) |     | 0.005          |           |
| 1,1-Dichloroethylene                    |        |             | <0.025           |           | mg/L       |     | 0.025          | 04-SEP-19 |
| 1,2-Dichlorobenzene                     |        |             | <0.025           |           | mg/L       |     | 0.025          | 04-SEP-19 |
| 1,2-Dichloroethane                      |        |             | <0.025           |           | mg/L       |     | 0.025          | 04-SEP-19 |
| 1,4-Dichlorobenzene                     |        |             | <0.025           |           | mg/L       |     | 0.025          | 04-SEP-19 |
| Benzene                                 |        |             | <0.025           |           | mg/L       |     | 0.025          | 04-SEP-19 |
| Carbon tetrachloride                    |        |             | <0.025<br><0.025 |           | mg/L       |     | 0.025<br>0.025 | 04-SEP-19 |
| Chlorobenzene<br>Chloroform             |        |             |                  |           | mg/L       |     |                | 04-SEP-19 |
|                                         |        |             | <0.10            |           | mg/L       |     | 0.1            | 04-SEP-19 |
| Dichloromethane                         |        |             | <0.50            |           | mg/L       |     | 0.5            | 04-SEP-19 |
| Methyl Ethyl Ketone                     |        |             | <1.0             |           | mg/L       |     | 1              | 04-SEP-19 |
| Tetrachloroethylene                     |        |             | <0.025           |           | mg/L       |     | 0.025          | 04-SEP-19 |
| Trichloroethylene                       |        |             | <0.025           |           | mg/L       |     | 0.025          | 04-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                   | Matrix      | Reference  | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------|-------------|------------|---------|-----------|-------|-----|--------|-----------|
| VOC-TCLP-WT            | Waste       |            |         |           |       |     |        |           |
| Batch R478296          | 55          |            |         |           |       |     |        |           |
| WG3150015-2 MB         |             |            |         |           |       |     |        |           |
| Vinyl chloride         |             |            | < 0.050 |           | mg/L  |     | 0.05   | 04-SEP-19 |
| Surrogate: 1,4-Difluor | obenzene    |            | 99.8    |           | %     |     | 70-130 | 04-SEP-19 |
| Surrogate: 4-Bromoflu  | uorobenzene |            | 95.9    |           | %     |     | 70-130 | 04-SEP-19 |
| WG3150015-3 MS         |             | L2336707-1 |         |           |       |     |        |           |
| 1,1-Dichloroethylene   |             |            | 98.3    |           | %     |     | 50-140 | 05-SEP-19 |
| 1,2-Dichlorobenzene    |             |            | 98.1    |           | %     |     | 50-140 | 05-SEP-19 |
| 1,2-Dichloroethane     |             |            | 85.9    |           | %     |     | 50-140 | 05-SEP-19 |
| 1,4-Dichlorobenzene    |             |            | 104.9   |           | %     |     | 50-140 | 05-SEP-19 |
| Benzene                |             |            | 102.7   |           | %     |     | 50-140 | 05-SEP-19 |
| Carbon tetrachloride   |             |            | 120.6   |           | %     |     | 50-140 | 05-SEP-19 |
| Chlorobenzene          |             |            | 99.9    |           | %     |     | 50-140 | 05-SEP-19 |
| Chloroform             |             |            | 101.5   |           | %     |     | 50-140 | 05-SEP-19 |
| Dichloromethane        |             |            | 89.0    |           | %     |     | 50-140 | 05-SEP-19 |
| Methyl Ethyl Ketone    |             |            | 64.5    |           | %     |     | 50-140 | 05-SEP-19 |
| Tetrachloroethylene    |             |            | 113.5   |           | %     |     | 50-140 | 05-SEP-19 |
| Trichloroethylene      |             |            | 117.8   |           | %     |     | 50-140 | 05-SEP-19 |
| Vinyl chloride         |             |            | 107.5   |           | %     |     | 50-140 | 05-SEP-19 |
|                        |             |            |         |           |       |     |        |           |

Workorder: L2336707 Report Date: 06-SEP-19

Client: CH2M HILL CANADA LIMITED Page 11 of 11

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

Legend:

.imit 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                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------|
| 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.        |

#### **Hold Time Exceedances:**

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

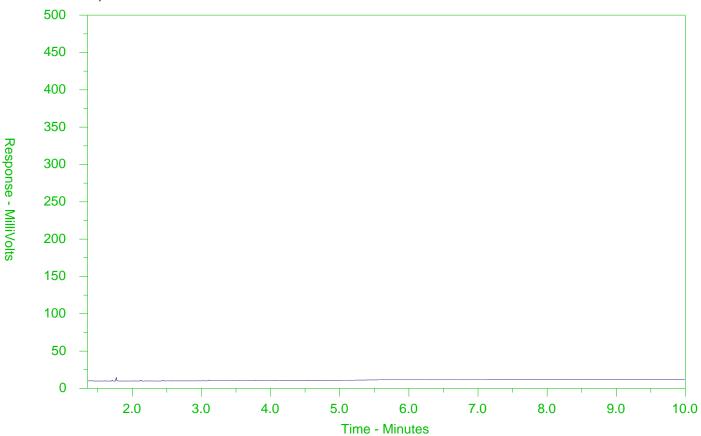
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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



ALS Sample ID: L2336707-1 Client Sample ID: TCLP- 20190827



| <b>←</b> -F2- | → ←         | —F3——◆4—F4- | <b>→</b>                    |   |
|---------------|-------------|-------------|-----------------------------|---|
| nC10          | nC16        | nC34        | nC50                        |   |
| 174°C         | 287°C       | 481°C       | 575°C                       |   |
| 346°F         | 549°F       | 898°F       | 1067°F                      |   |
| Gasolin       | e <b>→</b>  | <b>←</b> M  | otor Oils/Lube Oils/Grease— | - |
| <b>←</b>      | -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.



### Chain of Custody (COC) / Analytical Request Form

COC Number: 17

Canada Toll Free: 1 800 668 9878

|                      | www.alsglobal.com                                    |                       |                   |                                                  | _                |                   |                                                  |                  |               |               |               |                |          |                   |              |                  |              |          | <u> </u>    | <u>/</u>     | _)              |                      |
|----------------------|------------------------------------------------------|-----------------------|-------------------|--------------------------------------------------|------------------|-------------------|--------------------------------------------------|------------------|---------------|---------------|---------------|----------------|----------|-------------------|--------------|------------------|--------------|----------|-------------|--------------|-----------------|----------------------|
| Report To            | Contact and company name below will appear on t      | ne final report       |                   | Report Format                                    |                  |                   | _                                                | Salect           | Servic        |               |               |                |          |                   |              |                  |              |          |             | es may       | pp(ply)         | $\Box$               |
| Company <sup>-</sup> | CH2M Hil/Jacobs                                      |                       | Select Report F   | ormat 🖫 PDF 🖔                                    | ≱ewoer B⇔co      | XD (DYGITAL)      |                                                  |                  | jular (       |               |               | land TA        |          |                   |              |                  |              |          | rges appl   |              |                 |                      |
| Confact:             | Andrew Vermeersch                                    |                       |                   | (QC) Report with R                               |                  |                   | ξş                                               | ' '              | -             | 20%]          |               |                | 1        | Busins            | ss da        | y (E1            | - 100%       | 1        |             |              |                 |                      |
| Phone:               | 519 579 3500 x 73247                                 |                       | Compare Result    | s to Onteria on Report -                         |                  |                   | 1 2                                              |                  | -             | 25%)          | _             |                |          |                   |              |                  |              |          |             | y (E2 -2     | 200%            |                      |
|                      | Company address below will appear on the final repo- | rt                    | Select Distributi | ion: 🔲 EMAIL                                     | ☐ MAJL ☐         | FAX               | F 3                                              |                  |               | 50%)          |               |                |          | aborato           | ку ор        | ening            | fegg r       | пау ар   | ply)]       |              |                 |                      |
| Street:              | 72 Victoria Street South, Suite 300                  |                       | Email 1 or Fax    | Andrew Vermeers                                  | ch@jacobs.com    | 1                 |                                                  | Derte and        | 1 Thron       | Require       | d for a       | I EAP I        | ATE:     |                   |              |                  |              |          |             |              |                 |                      |
| City/Province:       | Kitchener/Ontario                                    |                       | Email 2 M.        | chiel Shice                                      | ر المرمة في      | المراد ا          | For ter                                          | Als tiveri c     | an not b      | e perior      | ned acc       | oedling f      | The ser  | viçe leval        | selecte:     | i, you wi        | il be con    | tacked.  |             |              |                 |                      |
| Postal Code:         | N2G 4Y9                                              |                       | Email 3 📭         | Alberta 1000                                     |                  | 73 - Cul.un       |                                                  |                  |               |               |               |                |          | Amalysi           | s Req        | uest             |              |          |             |              |                 |                      |
| Invoice To           | Same as Report To                                    |                       |                   | Invoice Dia                                      | tribúticií       |                   |                                                  |                  | Indice        | itë Fillen    | ed (F),       | Гтөзөгү        | ed (P) o | y Fattered        | and Pr       | 08 <b>0</b> (760 | (F/P) b      | elow-    |             |              | Gertal          |                      |
|                      | Copy of Invalce with Report YCS NO                   | 20                    | Select Involce [  | Distribution: 🔲 EMA                              | CL MAIL [        | ☐ FAX             | _                                                |                  | - [           |               |               |                |          |                   |              |                  | -            |          |             |              | ‡               | l f                  |
| Company:             | CH2M Hill Kitchener                                  |                       | Email 1 or Fax    | Accounts Payable                                 |                  |                   | Г                                                | Ι Τ              |               |               |               |                |          |                   |              | 76.45            |              |          |             |              | provide further | 1 1                  |
| Contact.             | Accounts Payable                                     |                       | Emall 2           |                                                  |                  |                   | ]                                                | ]                | [             |               |               |                |          |                   |              | 14               | ]            | i        |             |              |                 | l i                  |
|                      | Project Information                                  |                       | Oil               | and Gas Require                                  | Fields (client   | use)              |                                                  | H                | i             |               |               |                |          |                   | 15           | 1 -              | 1 1          | 1        |             |              | 1               | ΙI                   |
| ALS Account#         | / Quote # Q72980                                     |                       | AFE/Cont Center:  |                                                  | PO#              |                   | 1                                                | ļ ļ              |               |               |               | 5              |          |                   | 762          | F                |              | 1        |             |              | ā.              |                      |
|                      | CE751900 A.CS.EV.A2                                  |                       | MajorMinor Code:  |                                                  | Routing Code:    | ·                 | 1                                                | ] [              |               |               |               | ALS.           |          | ļ                 | 1            | C                | اتحا         | 1        | 1           |              | ΙĒ              | 8                    |
| PO / AFE:            | <u> </u>                                             |                       | Requisitioner.    |                                                  |                  |                   | 1                                                | 1                |               |               |               | 2              |          | -                 | <u>~</u>     | ا. ا             | 3            |          | Ì           | ٦            | 유               | \vec{x}              |
| LSD:                 |                                                      |                       | Location:         |                                                  |                  |                   | 盟                                                | <u>-</u>         |               | ŧ             |               | ž.             | ᆚ        | i                 |              | 1,1              | 2            |          | j           | 4gF          | \$              | 幫                    |
|                      | - 200                                                | 1K-1 #7               |                   |                                                  |                  | 4 4 14            | 1 🖔                                              | 7                |               |               |               | and Furans (To | Ĭ        | 1                 | - total      | 147              |              | - 1      |             | l ž          | 1 2             | NUMBER OF CONTAINERS |
| ALS Lab Work         | k Order # (lab use only): (2330                      | NITHU                 | ALS Contact:      | Mathy                                            | Sampler:         | Andrew V.         | S from                                           | -                |               |               | ŀ             | ٠<br>آ         |          | 1                 | 3            | 1                | 2            |          | į           | SAMPLES ON   | <u> </u>        |                      |
| ALS Sample #         | Sample (dentification and/o                          | or Coordinates        |                   | Date                                             | Time             | Samula Tyran      | Metals                                           | ا ہ ا            | νI            | <b>Z</b>      | -             | Dippins        |          | ,   💂             | 5            | 1.5              | 5            |          | į           | ਵ            | Sample          | 🚆                    |
| (lab use only)       | (This description will appear                        | on the report)        |                   | (dd-mmm-yy)                                      | (hh:mm)          | Semple Type       | 불                                                | કુ               | Ķ             | F1-F2         | F F           | 8              | 3 5      | 2 E               | ~            | -24              | ,            |          |             | న            | 3               | ⊋                    |
|                      | 766-201400 27                                        |                       |                   | 27- Aug-19                                       | 9:3<             | Weste             |                                                  | ×                |               |               | _ [           | _ [:           | e Ti     |                   | 8            | Y                | 4            | ]        | ĺ           | 1            |                 | [6]                  |
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| Deinking             | Water (DW) Samples (client use)                      | tal Instructions / St |                   | add on report by sec                             | king on the drap | p-down list below | -                                                |                  | 100           |               | SAME          | _              |          | ION AS<br>ervatio |              | Yes              | ) (IALD I    |          | iy)<br>N    |              | -               | <del>,</del>         |
|                      |                                                      |                       | (918)             | etronic COC only)                                |                  |                   | Froz                                             |                  |               | _             |               |                |          | sealin            |              | Yes              | =            | =        | N           |              |                 | ĭ l                  |
|                      | en from a Regulated DW System?                       |                       |                   |                                                  |                  |                   |                                                  | ecks<br>ing Init | ****          |               | IDG5          |                | nancach  | Been III          | BE           | 163              |              | 1        | - 19        | •            |                 | - 1                  |
| ı                    | is S/NO                                              |                       |                   |                                                  |                  |                   | -                                                |                  |               | COLER         | TEMP          | ERATU          | ₹Ê9.40   |                   | _            | - 1              | INAL C       | DOLERÍ   | TEMPER      | ATÜRES       | *C              | $\dashv$             |
| 1                    | human consumption/ vse?                              |                       |                   |                                                  |                  |                   | 1                                                |                  |               |               |               |                |          |                   | 4            | .2               |              |          |             |              | 1               | $\neg$               |
| ☐ YE                 | S Pho                                                |                       |                   | INITIAL CAUCAGO                                  | TORACRES         | llah ura aska     | Ц.,                                              |                  |               |               |               | EIN            | Al Ci    | (IPMEN            | 1.4          |                  | IOM (II-     | h (=c    | nob/s       |              | 1               | $\dashv$             |
|                      | SHIPMENT RELEASE (client use)                        | Time.                 | Received by:      | INITIAL SHIPMEN                                  | Date:            | Hara ness outs)   | Time                                             | -                | Rece          | ived by       | v:            |                | 7 T      |                   |              | _                |              |          | Daily)      | Time         | B: .            | $\dashv$             |
| Released by:         | Venezzek 27-Ay-19                                    | 78 447                | Hereiven this     |                                                  | Pouls select     |                   |                                                  |                  |               |               |               | 1              | 14       | 0                 | 47           | 108              | 119          | k.       |             | 10           | 524             | ) l                  |
| REFER TO BACK        | PAGE FOR ALS LOCATIONS AND SAMPLING INFO             |                       | ·                 | WH                                               | ITE - LABORATO   | RY COPY YEL       | 10W                                              | CLIEN            | T COP         | Ϋ́            |               |                | -        |                   |              |                  |              |          |             |              | 2(10) 70        | OHT INDONE           |



CH2M HILL CANADA LIMITED

ATTN: Andrew Vermeersch 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 27-AUG-19

Report Date: 18-SEP-19 07:31 (MT)

Version: FINAL REV. 2

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2336718
Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV.A2

C of C Numbers: Legal Site Desc:

Comments: ADDITIONAL 11-SEP-19 08:03

18-SEP-2019 With EC and SAR reporting on sample 5

Emily Hansen Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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### ANALYTICAL GUIDELINE REPORT

L2336718 CONTD.... Page 2 of 12

18-SEP-19 07:31 (MT) Sample Details Result Qualifier D.L. Units Grouping Analyte Analyzed **Guideline Limits** L2336718-1 MW102-7.5-9.5 Sampled By: AV on 26-AUG-19 @ 08:45 #1 #2 Matrix: SOIL **Physical Tests** Conductivity 0.0040 mS/cm 03-SEP-19 \*0.47 \*0.57 1 49 % Moisture 13.0 0.10 % 29-AUG-19 рΗ 7.51 0.10 pH units 03-SEP-19 Cyanides Cyanide, Weak Acid Diss < 0.050 0.050 30-AUG-19 0.051 0.051 ug/g Organic / Inorganic Carbon 0.0013 0.0010 No Unit 05-SEP-19 Fraction Organic Carbon 0.0010 Fraction Organic Carbon 0.0013 No Unit 05-SEP-19 0.0010 Fraction Organic Carbon 0.0013 No Unit 05-SEP-19 Average Fraction Organic Carbon 0.0013 0.0010 No Unit 05-SEP-19 **Total Organic Carbon** 0.13 0.10 % 05-SEP-19 **Total Organic Carbon** 0.13 0.10 % 05-SEP-19 0.10 **Total Organic Carbon** 0.13 % 05-SEP-19 **Saturated Paste Extractables** SAR 18.1 0.10 SAR 03-SEP-19 \*2.4 Calcium (Ca) 8.23 0.50 mg/L 03-SEP-19 Magnesium (Mg) 0.50 mg/L 03-SEP-19 7.20 Sodium (Na) 295 0.50 mg/L 03-SEP-19 Metals Antimony (Sb) 1.0 1.0 ug/g 03-SEP-19 1 1.3 Arsenic (As) 2.4 1.0 ug/g 03-SEP-19 18 11 Barium (Ba) 65.4 1.0 ug/g 03-SEP-19 210 220 < 0.50 0.50 03-SEP-19 Beryllium (Be) ug/g 2.5 2.5 03-SEP-19 Boron (B) 6.1 5.0 ug/g 36 36 Boron (B), Hot Water Ext. 0.15 0.10 03-SEP-19 36 36 ug/g Cadmium (Cd) 0.50 03-SEP-19 < 0.50 1.2 ug/g 1 03-SEP-19 Chromium (Cr) 21.3 1.0 ug/g 67 70 Cobalt (Co) 4.5 1.0 ug/g 03-SEP-19 19 21 03-SEP-19 Copper (Cu) 33.1 1.0 ug/g 62 92 Lead (Pb) 24.9 1.0 ug/g 03-SEP-19 45 120 Mercury (Hg) 0.0513 0.0050 03-SEP-19 0.16 0.27 ug/g Molybdenum (Mo) <1.0 1.0 ug/g 03-SEP-19 2 2 Nickel (Ni) 11.1 1.0 ug/g 03-SEP-19 37 82 Selenium (Se) <1.0 1.0 03-SEP-19 ug/g 1.2 1.5 Silver (Ag) <0.20 0.20 03-SEP-19 ug/g 0.5 0.5 < 0.50 0.50 03-SEP-19 Thallium (TI) ug/g 1 1

<1.0

1.0

ug/g

Uranium (U)

1.9

2.5

03-SEP-19

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:



### **ANALYTICAL GUIDELINE REPORT**

L2336718 CONTD.... Page 3 of 12

Page 3 of 12 18-SEP-19 07:31 (MT)

| 21.7<br>129<br>0.97 | Qualifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | D.L.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Units   | Analyzed  | #1      | Guidelir<br>#2 | e Limits |         |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|---------|----------------|----------|---------|
| 129                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |           | #1      | #2             |          |         |
| 129                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |           | #1      | #2             |          |         |
| 129                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |           | #1      | π/             |          |         |
| 129                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |           |         | π∠             |          |         |
| 129                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |         |           |         |                |          |         |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ug/g    | 03-SEP-19 | 86      | 86             |          |         |
| 0.97                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ug/g    | 03-SEP-19 | 290     | 290            |          |         |
| 0.97                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.0     |           |         |                |          |         |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ug/g    | 29-AUG-19 | *0.66   | *0.66          |          |         |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -9.9    |           | 0.00    | 0.00           |          |         |
| <0.50               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ua/a    | 04-SFP-19 | 0.5     | 0.5            |          |         |
|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         |           |         |                |          |         |
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Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



### **ANALYTICAL GUIDELINE REPORT**

L2336718 CONTD....

Page 4 of 12 18-SEP-19 07:31 (MT)

| CE751900.A.CS.EV.A2 Sample Details  |        |           |        |          |           |       |          | 18-SEP-19 0 | 7:31 (MT) |
|-------------------------------------|--------|-----------|--------|----------|-----------|-------|----------|-------------|-----------|
| Grouping Analyte                    | Result | Qualifier | D.L.   | Units    | Analyzed  |       | Guidelir | ne Limits   |           |
| L2336718-1 MW102-7.5-9.5            |        |           |        |          |           |       |          |             |           |
| Sampled By: AV on 26-AUG-19 @ 08:45 |        |           |        |          |           |       |          |             |           |
| Matrix: SOIL                        |        |           |        |          |           | #1    | #2       |             |           |
| Volatile Organic Compounds          |        |           |        |          |           |       |          |             |           |
| m+p-Xylenes                         | <0.030 |           | 0.030  | ug/g     | 04-SEP-19 |       |          |             |           |
| Xylenes (Total)                     | <0.050 |           | 0.050  | ug/g     | 04-SEP-19 | 0.05  | 0.05     |             |           |
| Surrogate: 4-Bromofluorobenzene     | 92.9   |           | 50-140 | %        | 04-SEP-19 |       |          |             |           |
| Surrogate: 1,4-Difluorobenzene      | 111.5  |           | 50-140 | %        | 04-SEP-19 |       |          |             |           |
| Hydrocarbons                        |        |           |        |          |           |       |          |             |           |
| F1 (C6-C10)                         | <5.0   |           | 5.0    | ug/g     | 04-SEP-19 | 17    | 25       |             |           |
| F1-BTEX                             | <5.0   |           | 5.0    | ug/g     | 06-SEP-19 | 17    | 25       |             |           |
| F2 (C10-C16)                        | <10    |           | 10     | ug/g     | 06-SEP-19 | 10    | 10       |             |           |
| F2-Naphth                           | <10    |           | 10     | ug/g     | 06-SEP-19 |       |          |             |           |
| F3 (C16-C34)                        | <50    |           | 50     | ug/g     | 06-SEP-19 | 240   | 240      |             |           |
| F3-PAH                              | <50    |           | 50     | ug/g     | 06-SEP-19 |       |          |             |           |
| F4 (C34-C50)                        | 71     |           | 50     | ug/g     | 06-SEP-19 | 120   | 120      |             |           |
| Total Hydrocarbons (C6-C50)         | <72    |           | 72     | ug/g     | 06-SEP-19 |       |          |             |           |
| Chrom. to baseline at nC50          | YES    |           |        | No Unit  | 06-SEP-19 |       |          |             |           |
| Surrogate: 2-Bromobenzotrifluoride  | 67.3   |           | 60-140 | %        | 06-SEP-19 |       |          |             |           |
| Surrogate: 3,4-Dichlorotoluene      | 82.3   |           | 60-140 | %        | 04-SEP-19 |       |          |             |           |
| Polycyclic Aromatic Hydrocarbons    |        |           |        |          |           |       |          |             |           |
| Acenaphthene                        | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.05  | 0.072    |             |           |
| Acenaphthylene                      | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.093 | 0.093    |             |           |
| Anthracene                          | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.05  | 0.16     |             |           |
| Benzo(a)anthracene                  | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.095 | 0.36     |             |           |
| Benzo(a)pyrene                      | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.05  | 0.3      |             |           |
| Benzo(b)fluoranthene                | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.3   | 0.47     |             |           |
| Benzo(g,h,i)perylene                | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.2   | 0.68     |             |           |
| Benzo(k)fluoranthene                | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.05  | 0.48     |             |           |
| Chrysene                            | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.18  | 2.8      |             |           |
| Dibenzo(ah)anthracene               | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.1   | 0.1      |             |           |
| Fluoranthene                        | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.24  | 0.56     |             |           |
| Fluorene                            | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.05  | 0.12     |             |           |
| Indeno(1,2,3-cd)pyrene              | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.11  | 0.23     |             |           |
| 1+2-Methylnaphthalenes              | <0.042 |           | 0.042  | ug/g     | 03-SEP-19 | 0.05  | 0.59     |             |           |
| 1-Methylnaphthalene                 | <0.030 |           | 0.030  | ug/g     | 03-SEP-19 | 0.05  | 0.59     |             |           |
| 2-Methylnaphthalene                 | <0.030 |           | 0.030  | ug/g     | 03-SEP-19 | 0.05  | 0.59     |             |           |
| Naphthalene                         | <0.013 |           | 0.013  | ug/g     | 03-SEP-19 | 0.05  | 0.09     |             |           |
| Phenanthrene                        | <0.046 |           | 0.046  | ug/g     | 03-SEP-19 | 0.19  | 0.69     |             |           |
| Pyrene                              | <0.050 |           | 0.050  | ug/g     | 03-SEP-19 | 0.19  | 1        |             |           |
| Surrogate: 2-Fluorobiphenyl         | 107.3  |           | 50-140 | %        | 03-SEP-19 |       |          |             |           |
| Surrogate: p-Terphenyl d14          | 102.2  |           | 50-140 | %        | 03-SEP-19 |       |          |             |           |
| L2336718-3 MW102-12.5-14.5          |        |           |        |          |           |       |          |             |           |
| Sampled By: AV on 26-AUG-19 @ 08:57 |        |           |        |          |           |       |          |             |           |
| Matrix: SOIL                        |        |           |        |          |           | #1    | #2       |             |           |
|                                     |        |           |        |          |           |       | 1        |             |           |
| Physical Tests                      |        |           |        |          |           |       |          |             |           |
| Conductivity                        | 1.49   |           | 0.0040 | mS/cm    | 03-SEP-19 | *0.47 | *0.57    |             |           |
| % Moisture                          | 10.9   |           | 0.10   | %        | 29-AUG-19 |       |          |             |           |
| pН                                  | 7.85   |           | 0.10   | pH units | 03-SEP-19 |       |          |             |           |
|                                     | - i    |           |        |          | 1         |       |          |             |           |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



### **ANALYTICAL GUIDELINE REPORT**

L2336718 CONTD.... Page 5 of 12 18-SEP-19 07:31 (MT)

| Sample Details                      |               |           |             |              |                        |          |          | 18-SEP-19 07:31 (MT) |  |  |  |  |
|-------------------------------------|---------------|-----------|-------------|--------------|------------------------|----------|----------|----------------------|--|--|--|--|
| Grouping Analyte                    | Result        | Qualifier | D.L.        | Units        | Analyzed               |          | Guidelir | ne Limits            |  |  |  |  |
| L2336718-3 MW102-12.5-14.5          |               |           |             |              |                        |          |          |                      |  |  |  |  |
| Sampled By: AV on 26-AUG-19 @ 08:57 |               |           |             |              |                        |          |          |                      |  |  |  |  |
| Matrix: SOIL                        |               |           |             |              |                        | #1       | #2       |                      |  |  |  |  |
| Cyanides                            |               |           |             |              |                        |          |          |                      |  |  |  |  |
| Cyanide, Weak Acid Diss             | <0.050        |           | 0.050       | ua/a         | 30-AUG-19              | 0.051    | 0.051    |                      |  |  |  |  |
| Organic / Inorganic Carbon          | <0.030        |           | 0.030       | ug/g         | 30-A0G-19              | 0.031    | 0.031    |                      |  |  |  |  |
| Fraction Organic Carbon             | <0.0010       |           | 0.0010      | No Unit      | 05-SEP-19              |          |          |                      |  |  |  |  |
| Traction Organic Carbon             | <0.0010       |           | 0.0010      | 140 Onit     | 05 021 15              |          |          |                      |  |  |  |  |
|                                     |               |           |             |              |                        |          |          |                      |  |  |  |  |
| Fraction Organic Carbon             | <0.0010       |           | 0.0010      | No Unit      | 05-SEP-19              |          |          |                      |  |  |  |  |
|                                     |               |           |             |              |                        |          |          |                      |  |  |  |  |
| Fraction Organic Carbon             | <0.0010       |           | 0.0010      | No Unit      | 05-SEP-19              |          |          |                      |  |  |  |  |
|                                     |               |           |             |              |                        |          |          |                      |  |  |  |  |
| Average Fraction Organic Carbon     | <0.0010       |           | 0.0010      | No Unit      | 05-SEP-19              |          |          |                      |  |  |  |  |
| Total Organic Carbon                | <0.10         |           | 0.10        | %            | 05-SEP-19              |          |          |                      |  |  |  |  |
|                                     |               |           |             |              |                        |          |          |                      |  |  |  |  |
| Total Organic Carbon                | <0.10         |           | 0.10        | %            | 05-SEP-19              |          |          |                      |  |  |  |  |
| Total Organic Carbon                | 30.10         |           | 0.10        | /0           | 00 021 10              |          |          |                      |  |  |  |  |
|                                     |               |           |             |              |                        |          |          |                      |  |  |  |  |
| Total Organic Carbon                | <0.10         |           | 0.10        | %            | 05-SEP-19              |          |          |                      |  |  |  |  |
|                                     |               |           |             |              |                        |          |          |                      |  |  |  |  |
| Saturated Paste Extractables        |               |           |             |              |                        |          |          |                      |  |  |  |  |
| SAR                                 | 41.2          |           | 0.10        | SAR          | 03-SEP-19              | *1       | *2.4     |                      |  |  |  |  |
| Calcium (Ca)                        | 2.23          |           | 0.50        | mg/L         | 03-SEP-19              |          |          |                      |  |  |  |  |
| Magnesium (Mg)                      | 0.91<br>289   |           | 0.50        | mg/L         | 03-SEP-19              |          |          |                      |  |  |  |  |
| Sodium (Na) Metals                  | 209           |           | 0.50        | mg/L         | 03-SEP-19              |          |          |                      |  |  |  |  |
| Antimony (Sb)                       | <1.0          |           | 1.0         | ug/g         | 03-SEP-19              | 1        | 1.3      |                      |  |  |  |  |
| Arsenic (As)                        | 2.4           |           | 1.0         | ug/g<br>ug/g | 03-SEP-19              | 11       | 1.3      |                      |  |  |  |  |
| Barium (Ba)                         | 37.8          |           | 1.0         | ug/g         | 03-SEP-19              | 210      | 220      |                      |  |  |  |  |
| Beryllium (Be)                      | <0.50         |           | 0.50        | ug/g         | 03-SEP-19              | 2.5      | 2.5      |                      |  |  |  |  |
| Boron (B)                           | 7.3           |           | 5.0         | ug/g         | 03-SEP-19              | 36       | 36       |                      |  |  |  |  |
| Boron (B), Hot Water Ext.           | 0.11          |           | 0.10        | ug/g         | 03-SEP-19              | 36       | 36       |                      |  |  |  |  |
| Cadmium (Cd)                        | <0.50         |           | 0.50        | ug/g         | 03-SEP-19              | 1        | 1.2      |                      |  |  |  |  |
| Chromium (Cr)                       | 14.2          |           | 1.0         | ug/g         | 03-SEP-19              | 67       | 70       |                      |  |  |  |  |
| Cobalt (Co)                         | 5.4           |           | 1.0         | ug/g         | 03-SEP-19              | 19       | 21       |                      |  |  |  |  |
| Copper (Cu)                         | 13.4          |           | 1.0         | ug/g         | 03-SEP-19              | 62       | 92       |                      |  |  |  |  |
| Lead (Pb)                           | 9.9           |           | 1.0         | ug/g         | 03-SEP-19              | 45       | 120      |                      |  |  |  |  |
| Mercury (Hg)                        | 0.0080        |           | 0.0050      | ug/g         | 03-SEP-19              | 0.16     | 0.27     |                      |  |  |  |  |
| Molybdenum (Mo)                     | <1.0          |           | 1.0         | ug/g         | 03-SEP-19              | 2        | 2        |                      |  |  |  |  |
| Nickel (Ni)                         | 11.6          |           | 1.0         | ug/g         | 03-SEP-19              | 37       | 82       |                      |  |  |  |  |
| Selenium (Se)<br>Silver (Ag)        | <1.0<br><0.20 |           | 1.0<br>0.20 | ug/g         | 03-SEP-19<br>03-SEP-19 | 1.2      | 1.5      |                      |  |  |  |  |
| Silver (Ag) Thallium (TI)           | <0.20         |           | 0.20        | ug/g<br>ug/g | 03-SEP-19<br>03-SEP-19 | 0.5<br>1 | 0.5<br>1 |                      |  |  |  |  |
| Uranium (U)                         | <1.0          |           | 1.0         | ug/g<br>ug/g | 03-SEP-19<br>03-SEP-19 | 1.9      | 2.5      |                      |  |  |  |  |
| Vanadium (V)                        | 23.9          |           | 1.0         | ug/g         | 03-SEP-19              | 86       | 86       |                      |  |  |  |  |
| Zinc (Zn)                           | 114           |           | 5.0         | ug/g         | 03-SEP-19              | 290      | 290      |                      |  |  |  |  |
| Speciated Metals                    |               |           |             |              |                        |          |          |                      |  |  |  |  |
|                                     |               |           |             |              |                        |          |          |                      |  |  |  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



#### **ANALYTICAL GUIDELINE REPORT**

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| E751900.A.CS.EV.A2                  | ANALI                 | IICAL | שוטט   | CLINE        | KEPOK     | \ <b>I</b> | 1                | Page 6 of 1<br>8-SEP-19 07:31 (M |  |
|-------------------------------------|-----------------------|-------|--------|--------------|-----------|------------|------------------|----------------------------------|--|
| Sample Details Grouping Analyte     | Result Qualifier D.L. |       |        |              | Analyzed  | Guidelin   | Guideline Limits |                                  |  |
| _2336718-3 MW102-12.5-14.5          |                       |       |        |              |           |            |                  |                                  |  |
| Sampled By: AV on 26-AUG-19 @ 08:57 |                       |       |        |              |           |            |                  |                                  |  |
| Matrix: SOIL                        |                       |       |        |              |           | #1         | #2               |                                  |  |
| Speciated Metals                    |                       |       |        |              |           |            |                  |                                  |  |
| Chromium, Hexavalent                | <0.20                 |       | 0.20   | ug/g         | 29-AUG-19 | 0.66       | 0.66             |                                  |  |
| Volatile Organic Compounds          | 10.20                 |       | 0.20   | 49/9         | 20710010  | 0.00       | 0.00             |                                  |  |
| Acetone                             | <0.50                 |       | 0.50   | ug/g         | 04-SEP-19 | 0.5        | 0.5              |                                  |  |
| Benzene                             | <0.0068               |       | 0.0068 | ug/g         | 04-SEP-19 | 0.02       | 0.02             |                                  |  |
| Bromodichloromethane                | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.02       | 0.02             |                                  |  |
| Bromoform                           | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Bromomethane                        | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Carbon tetrachloride                | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Chlorobenzene                       | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Dibromochloromethane                | <0.050                |       | 0.050  | ug/g<br>ug/g | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Chloroform                          | <0.050                |       | 0.050  | ug/g<br>ug/g | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1,2-Dibromoethane                   | <0.050                |       | 0.050  | ug/g<br>ug/g | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1.2-Dichlorobenzene                 | <0.050                |       | 0.050  | ug/g<br>ug/g | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1,3-Dichlorobenzene                 | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1.4-Dichlorobenzene                 | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Dichlorodifluoromethane             | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1,1-Dichloroethane                  | <0.050                |       | 0.050  | ug/g<br>ug/g | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1,2-Dichloroethane                  | <0.050                |       | 0.050  | ug/g<br>ug/g | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1,1-Dichloroethylene                | <0.050                |       | 0.050  | ug/g<br>ug/g | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| cis-1,2-Dichloroethylene            | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| trans-1,2-Dichloroethylene          | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Methylene Chloride                  | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1,2-Dichloropropane                 | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| cis-1,3-Dichloropropene             | <0.030                |       | 0.030  | ug/g         | 04-SEP-19 | 0.00       | 0.00             |                                  |  |
| trans-1,3-Dichloropropene           | <0.030                |       | 0.030  | ug/g         | 04-SEP-19 |            |                  |                                  |  |
| 1,3-Dichloropropene (cis & trans)   | <0.042                |       | 0.042  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Ethylbenzene                        | <0.018                |       | 0.018  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| n-Hexane                            | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Methyl Ethyl Ketone                 | <0.50                 |       | 0.50   | ug/g         | 04-SEP-19 | 0.5        | 0.5              |                                  |  |
| Methyl Isobutyl Ketone              | <0.50                 |       | 0.50   | ug/g         | 04-SEP-19 | 0.5        | 0.5              |                                  |  |
| MTBE                                | < 0.050               |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Styrene                             | < 0.050               |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1,1,1,2-Tetrachloroethane           | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1,1,2,2-Tetrachloroethane           | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Tetrachloroethylene                 | < 0.050               |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Toluene                             | <0.080                |       | 0.080  | ug/g         | 04-SEP-19 | 0.2        | 0.2              |                                  |  |
| 1,1,1-Trichloroethane               | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| 1,1,2-Trichloroethane               | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Trichloroethylene                   | <0.010                |       | 0.010  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Trichlorofluoromethane              | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.25             |                                  |  |
| Vinyl chloride                      | <0.020                |       | 0.020  | ug/g         | 04-SEP-19 | 0.02       | 0.02             |                                  |  |
| o-Xylene                            | <0.020                |       | 0.020  | ug/g         | 04-SEP-19 | -          |                  |                                  |  |
| m+p-Xylenes                         | <0.030                |       | 0.030  | ug/g         | 04-SEP-19 |            |                  |                                  |  |
| Xylenes (Total)                     | <0.050                |       | 0.050  | ug/g         | 04-SEP-19 | 0.05       | 0.05             |                                  |  |
| Surrogate: 4-Bromofluorobenzene     | 94.5                  |       | 50-140 | %            | 04-SEP-19 |            |                  |                                  |  |
| Surrogate: 1,4-Difluorobenzene      | 112.3                 |       | 50-140 | %            | 04-SEP-19 |            |                  |                                  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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#### **ANALYTICAL GUIDELINE REPORT**

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| CE751900.A.CS.EV.A2 18-SEP-19 07:31 (MT) Sample Details |            |           |          |              |                        |       |          |           |  |
|---------------------------------------------------------|------------|-----------|----------|--------------|------------------------|-------|----------|-----------|--|
| Grouping Analyte                                        | Result     | Qualifier | D.L.     | Units        | Analyzed               |       | Guidelir | ne Limits |  |
| L2336718-3 MW102-12.5-14.5                              |            |           |          |              |                        |       |          |           |  |
| Sampled By: AV on 26-AUG-19 @ 08:57                     |            |           |          |              |                        |       |          |           |  |
| Matrix: SOIL                                            |            |           |          |              |                        | #1    | #2       |           |  |
| Hydrocarbons                                            |            |           |          |              |                        |       |          |           |  |
|                                                         | .5.0       |           | F 0      |              | 04.050.40              | 47    | 0.5      |           |  |
| F1 (C6-C10)                                             | <5.0       |           | 5.0      | ug/g         | 04-SEP-19              | 17    | 25       |           |  |
| F1-BTEX                                                 | <5.0       |           | 5.0      | ug/g         | 06-SEP-19              | 17    | 25       |           |  |
| F2 (C10-C16)                                            | <10        |           | 10       | ug/g         | 05-SEP-19              | 10    | 10       |           |  |
| F2-Naphth                                               | <10<br><50 |           | 10<br>50 | ug/g         | 06-SEP-19<br>05-SEP-19 | 240   | 240      |           |  |
| F3 (C16-C34)<br>F3-PAH                                  | <50<br><50 |           | 50       | ug/g<br>ug/g | 05-SEP-19<br>06-SEP-19 | 240   | 240      |           |  |
| F4 (C34-C50)                                            | <50<br><50 |           | 50       | ug/g<br>ug/g | 05-SEP-19              | 120   | 120      |           |  |
| Total Hydrocarbons (C6-C50)                             | <72        |           | 72       | ug/g         | 06-SEP-19              | 120   | 120      |           |  |
| Chrom. to baseline at nC50                              | YES        |           | 12       | No Unit      | 05-SEP-19              |       |          |           |  |
| Surrogate: 2-Bromobenzotrifluoride                      | 76.4       |           | 60-140   | %            | 05-SEP-19              |       |          |           |  |
| Surrogate: 3,4-Dichlorotoluene                          | 78.7       |           | 60-140   | %            | 04-SEP-19              |       |          |           |  |
| Polycyclic Aromatic Hydrocarbons                        |            |           |          |              |                        |       |          |           |  |
| Acenaphthene                                            | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.05  | 0.072    |           |  |
| Acenaphthylene                                          | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.093 | 0.093    |           |  |
| Anthracene                                              | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.05  | 0.16     |           |  |
| Benzo(a)anthracene                                      | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.095 | 0.36     |           |  |
| Benzo(a)pyrene                                          | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.05  | 0.3      |           |  |
| Benzo(b)fluoranthene                                    | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.3   | 0.47     |           |  |
| Benzo(g,h,i)perylene                                    | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.2   | 0.68     |           |  |
| Benzo(k)fluoranthene                                    | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.05  | 0.48     |           |  |
| Chrysene                                                | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.18  | 2.8      |           |  |
| Dibenzo(ah)anthracene                                   | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.1   | 0.1      |           |  |
| Fluoranthene                                            | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.24  | 0.56     |           |  |
| Fluorene                                                | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.05  | 0.12     |           |  |
| Indeno(1,2,3-cd)pyrene                                  | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.11  | 0.23     |           |  |
| 1+2-Methylnaphthalenes                                  | <0.042     |           | 0.042    | ug/g         | 03-SEP-19              | 0.05  | 0.59     |           |  |
| 1-Methylnaphthalene                                     | <0.030     |           | 0.030    | ug/g         | 03-SEP-19              | 0.05  | 0.59     |           |  |
| 2-Methylnaphthalene                                     | <0.030     |           | 0.030    | ug/g         | 03-SEP-19              | 0.05  | 0.59     |           |  |
| Naphthalene                                             | <0.013     |           | 0.013    | ug/g         | 03-SEP-19              | 0.05  | 0.09     |           |  |
| Phenanthrene                                            | <0.046     |           | 0.046    | ug/g         | 03-SEP-19              | 0.19  | 0.69     |           |  |
| Pyrene                                                  | <0.050     |           | 0.050    | ug/g         | 03-SEP-19              | 0.19  | 1        |           |  |
| Surrogate: 2-Fluorobiphenyl                             | 108.5      |           | 50-140   | %            | 03-SEP-19              |       |          |           |  |
| Surrogate: p-Terphenyl d14                              | 104.5      |           | 50-140   | %            | 03-SEP-19              |       |          |           |  |
| L2336718-5 MW102-25-26                                  |            |           |          |              |                        |       |          |           |  |
|                                                         |            |           |          |              |                        |       |          |           |  |
| Sampled By: AV on 26-AUG-19 @ 09:44                     |            |           |          |              |                        | #1    | #2       |           |  |
| Matrix: SOIL                                            |            |           |          |              |                        |       |          |           |  |
| Physical Tests                                          |            |           |          |              |                        |       |          |           |  |
| Conductivity                                            | 0.826      |           | 0.0040   | mS/cm        | 17-SEP-19              | *0.47 | *0.57    |           |  |
| Organic / Inorganic Carbon                              |            |           |          |              |                        |       |          |           |  |
| Fraction Organic Carbon                                 | <0.0010    |           | 0.0010   | No Unit      | 05-SEP-19              |       |          |           |  |
|                                                         |            |           |          |              |                        |       |          |           |  |
| Frantisca Organica O. I.                                | 0.0040     |           | 0.0010   | NI- 11-7     | 05.055.46              |       |          |           |  |
| Fraction Organic Carbon                                 | <0.0010    |           | 0.0010   | No Unit      | 05-SEP-19              |       |          |           |  |
|                                                         |            |           |          |              |                        |       |          |           |  |
| Fraction Organic Carbon                                 | <0.0010    |           | 0.0010   | No Unit      | 05-SEP-19              |       |          |           |  |
| <u> </u>                                                | <u> </u>   |           | I        |              | Ļ                      |       |          | l         |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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#### **ANALYTICAL GUIDELINE REPORT**

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| Sample Details 18-SEP-19 07:31 (MT) |                  |           |                |              |                        |              |              |           |   |
|-------------------------------------|------------------|-----------|----------------|--------------|------------------------|--------------|--------------|-----------|---|
| Grouping Analyte                    | Result           | Qualifier | D.L.           | Units        | Analyzed               |              | Guidelii     | ne Limits |   |
| L2336718-5 MW102-25-26              |                  |           |                |              |                        |              |              |           |   |
| Sampled By: AV on 26-AUG-19 @ 09:44 |                  |           |                |              |                        |              |              |           |   |
| Matrix: SOIL                        |                  |           |                |              |                        | #1           | #2           |           |   |
| Organic / Inorganic Carbon          |                  |           |                |              |                        |              |              |           |   |
| Organic / morganic darbon           |                  |           |                |              |                        |              |              |           |   |
|                                     |                  |           |                |              |                        |              |              |           |   |
| Average Fraction Organic Carbon     | <0.0010          |           | 0.0010         | No Unit      | 05-SEP-19              |              |              |           |   |
| Total Organic Carbon                | <0.10            |           | 0.10           | %            | 05-SEP-19              |              |              |           |   |
|                                     |                  |           |                |              |                        |              |              |           |   |
| Total Organic Carbon                | <0.10            |           | 0.10           | %            | 05-SEP-19              |              |              |           |   |
|                                     |                  |           |                |              |                        |              |              |           |   |
| Total Organic Carbon                | <0.10            |           | 0.10           | %            | 05-SEP-19              |              |              |           |   |
| Total Organic Carbon                | 40.10            |           | 0.10           | /0           | 00 021 10              |              |              |           |   |
| Saturated Paste Extractables        |                  |           |                |              |                        |              |              |           |   |
|                                     | 5.04             |           | 0.40           | CAD          | 47.CED 40              | +4           | *0.4         |           |   |
| SAR<br>Calcium (Ca)                 | 5.01<br>30.1     |           | 0.10<br>0.50   | SAR<br>mg/L  | 17-SEP-19<br>17-SEP-19 | *1           | *2.4         |           |   |
| Magnesium (Mg)                      | 6.79             |           | 0.50           | mg/L         | 17-SEP-19              |              |              |           |   |
| Sodium (Na)                         | 117              |           | 0.50           | mg/L         | 17-SEP-19              |              |              |           |   |
| . ,                                 |                  |           | 0.00           | 9, =         | 626                    |              |              |           |   |
| L2336718-7 TRIP BLANK-20190827      |                  |           |                |              |                        |              |              |           |   |
| Sampled By: AV on 26-AUG-19         |                  |           |                |              |                        | #1           | #2           |           |   |
| Matrix: SOIL                        |                  |           |                |              |                        |              |              |           |   |
| Physical Tests                      |                  |           |                |              |                        |              |              |           |   |
| % Moisture                          | <0.10            |           | 0.10           | %            | 29-AUG-19              |              |              |           |   |
| Volatile Organic Compounds          |                  |           |                |              |                        |              |              |           |   |
| Acetone                             | <0.50            |           | 0.50           | ug/g         | 05-SEP-19              | 0.5          | 0.5          |           |   |
| Benzene                             | <0.0068          |           | 0.0068         | ug/g         | 05-SEP-19              | 0.02         | 0.02         |           |   |
| Bromodichloromethane                | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| Bromoform<br>Bromomethane           | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| Carbon tetrachloride                | <0.050<br><0.050 |           | 0.050<br>0.050 | ug/g         | 05-SEP-19<br>05-SEP-19 | 0.05<br>0.05 | 0.05<br>0.05 |           |   |
| Chlorobenzene                       | <0.050           |           | 0.050          | ug/g<br>ug/g | 05-SEP-19              | 0.05         | 0.05         |           |   |
| Dibromochloromethane                | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| Chloroform                          | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| 1,2-Dibromoethane                   | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| 1,2-Dichlorobenzene                 | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| 1,3-Dichlorobenzene                 | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| 1,4-Dichlorobenzene                 | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| Dichlorodifluoromethane             | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| 1,1-Dichloroethane                  | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| 1,2-Dichloroethane                  | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| 1,1-Dichloroethylene                | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| cis-1,2-Dichloroethylene            | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| trans-1,2-Dichloroethylene          | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| Methylene Chloride                  | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| 1,2-Dichloropropane                 | <0.050           |           | 0.050          | ug/g         | 05-SEP-19              | 0.05         | 0.05         |           |   |
| cis-1,3-Dichloropropene             | <0.030           |           | 0.030          | ug/g         | 05-SEP-19              |              |              |           |   |
| trans-1,3-Dichloropropene           | <0.030           |           | 0.030          | ug/g         | 05-SEP-19              |              |              |           |   |
|                                     | 1                | 1         | I .            | 1            | 1                      |              | 1            | 1         | 1 |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



#### ANALYTICAL GUIDELINE REPORT

L2336718 CONTD.... Page 9 of 12

CE751900.A.CS.EV.A2 18-SEP-19 07:31 (MT) Sample Details Result Qualifier D.L. Units Grouping Analyte Analyzed **Guideline Limits** L2336718-7 TRIP BLANK-20190827 Sampled By: AV on 26-AUG-19 #1 #2 Matrix: SOIL **Volatile Organic Compounds** < 0.042 0.042 05-SEP-19 0.05 1,3-Dichloropropene (cis & trans) ug/g 0.05 Ethylbenzene < 0.018 0.018 ug/g 05-SEP-19 0.05 0.05 n-Hexane < 0.050 0.050 05-SEP-19 0.05 0.05 ug/g 0.50 05-SEP-19 Methyl Ethyl Ketone < 0.50 ug/g 0.5 0.5 Methyl Isobutyl Ketone < 0.50 0.50 05-SEP-19 0.5 ug/g 0.5 MTBE < 0.050 0.050 05-SEP-19 0.05 ug/g 0.05 05-SEP-19 Styrene < 0.050 0.050 ug/g 0.05 0.05 1,1,1,2-Tetrachloroethane 05-SEP-19 < 0.050 0.050 ug/g 0.05 0.05 1,1,2,2-Tetrachloroethane < 0.050 0.050 05-SEP-19 ug/g 0.05 0.05 Tetrachloroethylene < 0.050 0.050 05-SEP-19 0.05 ug/g 0.05 05-SEP-19 Toluene < 0.080 0.080 ug/g 0.2 0.2 1,1,1-Trichloroethane < 0.050 0.050 ug/g 05-SEP-19 0.05 0.05 1,1,2-Trichloroethane < 0.050 0.050 05-SEP-19 0.05 0.05 ug/g 05-SEP-19 Trichloroethylene < 0.010 0.010 ug/g 0.05 0.05 Trichlorofluoromethane < 0.050 0.050 05-SEP-19 0.05 0.25 ug/g Vinyl chloride < 0.020 0.020 05-SEP-19 ug/g 0.02 0.02 o-Xylene < 0.020 0.020 ug/g 05-SEP-19 m+p-Xylenes < 0.030 0.030 ug/g 05-SEP-19 Xylenes (Total) < 0.050 0.050 ug/g 05-SEP-19 0.05 0.05 50-140 % 05-SEP-19 Surrogate: 4-Bromofluorobenzene 98.1 Surrogate: 1,4-Difluorobenzene 115.3 50-140 % 05-SEP-19

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:

#### **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).

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

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).

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 CCME CWS-PHC, Pub #1310, Dec 2001-S

Parameters

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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

#### **Reference Information**

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-sq: 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-sq 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), 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

Metals in Soil by CRC ICPMS

EPA 200.2/6020A (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), 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

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).

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).

TOC-R511-WT

Soil

TOC & FOC-O.Reg 153/04 (July CARTER 21.3.2

2011)

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**

 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), 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-

Soil

Sum of Xylene Isomer

CALCULATION

WT Concentrations

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<br>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.



Workorder: L2336718 Report Date: 18-SEP-19 Page 1 of 23

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300  $\,$ 

KITCHENER ON N2G 4Y9

| Test                                       | Matrix | Reference                 | Result | Qualifier | Units          | RPD | Limit   | Analyzed  |
|--------------------------------------------|--------|---------------------------|--------|-----------|----------------|-----|---------|-----------|
| B-HWS-R511-WT                              | Soil   |                           |        |           |                |     |         |           |
| Batch R4781934                             |        |                           |        |           |                |     |         |           |
| WG3149990-4 DUP<br>Boron (B), Hot Water Ex | rt.    | <b>L2336862-1</b> 0.24    | 0.23   |           | ug/g           | 5.6 | 30      | 03-SEP-19 |
| WG3149990-2 IRM<br>Boron (B), Hot Water Ex | rt.    | WT SAR3                   | 98.1   |           | %              |     | 70-130  | 03-SEP-19 |
| WG3149990-3 LCS<br>Boron (B), Hot Water Ex | rt.    |                           | 94.8   |           | %              |     | 70-130  | 03-SEP-19 |
| WG3149990-1 MB<br>Boron (B), Hot Water Ex  | rt.    |                           | <0.10  |           | ug/g           |     | 0.1     | 03-SEP-19 |
| CN-WAD-R511-WT                             | Soil   |                           |        |           |                |     |         |           |
| Batch R4776403                             |        |                           |        |           |                |     |         |           |
| WG3146274-3 DUP<br>Cyanide, Weak Acid Dis  | S      | <b>L2336568-4</b> < 0.050 | <0.050 | RPD-NA    | ug/g           | N/A | 35      | 30-AUG-19 |
| WG3146274-2 LCS<br>Cyanide, Weak Acid Dis  | s      |                           | 94.5   |           | %              |     | 80-120  | 30-AUG-19 |
| WG3146274-1 MB<br>Cyanide, Weak Acid Dis   | s      |                           | <0.050 |           | ug/g           |     | 0.05    | 30-AUG-19 |
| WG3146274-4 MS<br>Cyanide, Weak Acid Dis   | s      | L2336568-4                | 105.7  |           | %              |     | 70-130  | 30-AUG-19 |
| CR-CR6-IC-WT                               | Soil   |                           |        |           |                |     |         |           |
| Batch R4775649                             |        |                           |        |           |                |     |         |           |
| WG3146077-4 CRM<br>Chromium, Hexavalent    |        | WT-SQC012                 | 104.0  |           | %              |     | 70-130  | 29-AUG-19 |
| WG3146077-3 DUP<br>Chromium, Hexavalent    |        | <b>L2336968-1</b> <0.20   | <0.20  | RPD-NA    | ug/g           | N/A | 35      | 29-AUG-19 |
| WG3146077-2 LCS<br>Chromium, Hexavalent    |        |                           | 96.0   |           | %              |     | 80-120  | 29-AUG-19 |
| WG3146077-1 MB<br>Chromium, Hexavalent     |        |                           | <0.20  |           | ug/g           |     | 0.2     | 29-AUG-19 |
| EC-WT                                      | Soil   |                           |        |           | · <del>-</del> |     |         | -         |
| Batch R4782071                             |        |                           |        |           |                |     |         |           |
| WG3149994-4 DUP<br>Conductivity            |        | <b>WG3149994-3</b> 0.440  | 0.443  |           | mS/cm          | 0.7 | 20      | 03-SEP-19 |
| WG3149994-2 IRM<br>Conductivity            |        | WT SAR3                   | 98.1   |           | %              |     | 70-130  | 03-SEP-19 |
| WG3150153-1 LCS Conductivity               |        |                           | 99.1   |           | %              |     | 90-110  | 03-SEP-19 |
| WG3149994-1 MB                             |        |                           |        |           |                |     | 30 . 10 | 33 02. 10 |



Workorder: L2336718 Report Date: 18-SEP-19 Page 2 of 23

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                               |              | Matrix | Reference                | Result          | Qualifier | Units        | RPD        | Limit       | Analyzed               |
|------------------------------------|--------------|--------|--------------------------|-----------------|-----------|--------------|------------|-------------|------------------------|
| EC-WT                              |              | Soil   |                          |                 |           |              |            |             |                        |
|                                    | /82071<br>MB | 20     |                          | <0.0040         |           | mS/cm        |            | 0.004       | 03-SEP-19              |
|                                    |              |        |                          |                 |           |              |            |             |                        |
| Batch R48                          | 315848       |        |                          |                 |           |              |            |             |                        |
| WG3163992-4<br>Conductivity        | DUP          |        | <b>WG3163992-3</b> 0.116 | 0.120           |           | mS/cm        | 3.3        | 20          | 17-SEP-19              |
| WG3163992-2<br>Conductivity        | IRM          |        | WT SAR3                  | 84.1            |           | %            |            | 70-130      | 17-SEP-19              |
| WG3164224-1<br>Conductivity        | LCS          |        |                          | 98.1            |           | %            |            | 90-110      | 17-SEP-19              |
| WG3163992-1<br>Conductivity        | MB           |        |                          | <0.0040         |           | mS/cm        |            | 0.004       | 17-SEP-19              |
| F1-HS-511-WT                       |              | Soil   |                          |                 |           |              |            |             |                        |
| Batch R47                          | 82647        |        |                          |                 |           |              |            |             |                        |
| <b>WG3150058-4</b><br>F1 (C6-C10)  | DUP          |        | <b>WG3150058-3</b> <5.0  | <5.0            | RPD-NA    | ug/g         | N/A        | 30          | 04-SEP-19              |
| <b>WG3150058-2</b><br>F1 (C6-C10)  | LCS          |        |                          | 108.9           |           | %            |            | 80-120      | 04-SEP-19              |
| WG3150058-1                        | MB           |        |                          |                 |           | ,            |            | _           |                        |
| F1 (C6-C10)                        | ioblorot     | duono  |                          | <5.0            |           | ug/g         |            | 5           | 04-SEP-19              |
| Surrogate: 3,4-D<br>WG3150058-6    | MS           | Juene  | L2335694-2               | 91.1            |           | %            |            | 60-140      | 04-SEP-19              |
| F1 (C6-C10)                        | IVIO         |        | LZ333034 <b>-</b> Z      | 105.5           |           | %            |            | 60-140      | 04-SEP-19              |
| F2-F4-511-WT                       |              | Soil   |                          |                 |           |              |            |             |                        |
|                                    | 783961       |        |                          |                 |           |              |            |             |                        |
| <b>WG3151718-8</b><br>F2 (C10-C16) | DUP          |        | <b>WG3151718-1</b> 0     | <b>)</b><br><10 | RPD-NA    | ug/g         | N/A        | 30          | 05-SEP-19              |
| F3 (C16-C34)                       |              |        | <50                      | <50             | RPD-NA    | ug/g<br>ug/g | N/A<br>N/A | 30          | 05-SEP-19<br>05-SEP-19 |
| F4 (C34-C50)                       |              |        | <50                      | 71              | RPD-NA    | ug/g         | N/A        | 30          | 05-SEP-19              |
| ,                                  | LCS          |        |                          | 97.3            |           | %            | •          | 80-120      | 05-SEP-19              |
| F3 (C16-C34)                       |              |        |                          | 101.6           |           | %            |            | 80-120      | 05-SEP-19              |
| F4 (C34-C50)                       |              |        |                          | 102.5           |           | %            |            | 80-120      | 05-SEP-19              |
| ,                                  | МВ           |        |                          |                 |           |              |            | <del></del> |                        |
| F2 (C10-C16)                       |              |        |                          | <10             |           | ug/g         |            | 10          | 05-SEP-19              |
| F3 (C16-C34)                       |              |        |                          | <50             |           | ug/g         |            | 50          | 05-SEP-19              |
| F4 (C34-C50)                       |              |        |                          | <50             |           | ug/g         |            | 50          | 05-SEP-19              |



Workorder: L2336718 Report Date: 18-SEP-19 Page 3 of 23

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                               |         | Matrix       | Reference                 | Result               | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------------------|---------|--------------|---------------------------|----------------------|-----------|-------|-----|--------|-----------|
| F2-F4-511-WT                       |         | Soil         |                           |                      |           |       |     |        |           |
| Batch R4                           | 1783961 |              |                           |                      |           |       |     |        |           |
| WG3151718-6                        | MB      |              |                           |                      |           |       |     |        |           |
| Surrogate: 2-Bi                    | omobenz | otrifluoride |                           | 57.3                 | MBS       | %     |     | 60-140 | 05-SEP-19 |
| <b>WG3151718-9</b> F2 (C10-C16)    | MS      |              | WG3151718-1               |                      |           | %     |     | CO 440 | 05 05D 40 |
| F3 (C16-C16)                       |         |              |                           | 94.8<br>98.9         |           | %     |     | 60-140 | 05-SEP-19 |
|                                    |         |              |                           |                      |           | %     |     | 60-140 | 05-SEP-19 |
| F4 (C34-C50)                       |         |              |                           | 101.1                |           | 70    |     | 60-140 | 05-SEP-19 |
| HG-200.2-CVAA-W                    | /T      | Soil         |                           |                      |           |       |     |        |           |
| Batch R4                           | 1781409 |              |                           |                      |           |       |     |        |           |
| WG3149974-2<br>Mercury (Hg)        | CRM     |              | WT-CANMET-                | <b>TILL1</b><br>98.5 |           | %     |     | 70-130 | 00.050.40 |
|                                    | DUD     |              | W00440074 F               | 90.5                 |           | 76    |     | 70-130 | 03-SEP-19 |
| WG3149974-6<br>Mercury (Hg)        | DUP     |              | <b>WG3149974-5</b> 0.0433 | 0.0450               |           | ug/g  | 3.8 | 40     | 03-SEP-19 |
| WG3149974-3                        | LCS     |              |                           |                      |           | 0.0   | 0.0 | .0     | 35 525    |
| Mercury (Hg)                       |         |              |                           | 100.0                |           | %     |     | 80-120 | 03-SEP-19 |
| WG3149974-1                        | MB      |              |                           |                      |           |       |     |        |           |
| Mercury (Hg)                       |         |              |                           | <0.0050              |           | mg/kg |     | 0.005  | 03-SEP-19 |
| Batch R4                           | 1781415 |              |                           |                      |           |       |     |        |           |
| WG3149978-2                        | CRM     |              | WT-CANMET-                |                      |           |       |     |        |           |
| Mercury (Hg)                       |         |              |                           | 98.5                 |           | %     |     | 70-130 | 03-SEP-19 |
| <b>WG3149978-6</b><br>Mercury (Hg) | DUP     |              | <b>WG3149978-5</b> 0.0080 | 0.0089               |           | ug/g  | 11  | 40     | 00 CED 40 |
|                                    |         |              | 0.0080                    | 0.0069               |           | ug/g  | 11  | 40     | 03-SEP-19 |
| <b>WG3149978-3</b><br>Mercury (Hg) | LCS     |              |                           | 104.0                |           | %     |     | 80-120 | 03-SEP-19 |
| WG3149978-1                        | МВ      |              |                           |                      |           |       |     | 00 .20 | 00 02. 10 |
| Mercury (Hg)                       | 2       |              |                           | <0.0050              |           | mg/kg |     | 0.005  | 03-SEP-19 |
| MET-200.2-CCMS-                    | ·WT     | Soil         |                           |                      |           |       |     |        |           |
| Batch R4                           | 1781779 |              |                           |                      |           |       |     |        |           |
| WG3149974-2                        | CRM     |              | WT-CANMET-                | TILL1                |           |       |     |        |           |
| Antimony (Sb)                      |         |              |                           | 104.6                |           | %     |     | 70-130 | 03-SEP-19 |
| Arsenic (As)                       |         |              |                           | 100.3                |           | %     |     | 70-130 | 03-SEP-19 |
| Barium (Ba)                        |         |              |                           | 99.8                 |           | %     |     | 70-130 | 03-SEP-19 |
| Beryllium (Be)                     |         |              |                           | 95.1                 |           | %     |     | 70-130 | 03-SEP-19 |
| Boron (B)                          |         |              |                           | 3.0                  |           | mg/kg |     | 0-8.2  | 03-SEP-19 |
| Cadmium (Cd)                       |         |              |                           | 99.8                 |           | %     |     | 70-130 | 03-SEP-19 |
| Chromium (Cr)                      |         |              |                           | 104.4                |           | %     |     | 70-130 | 03-SEP-19 |
| Cobalt (Co)                        |         |              |                           | 99.7                 |           | %     |     | 70-130 | 03-SEP-19 |
|                                    |         |              |                           |                      |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                             | Matrix | Reference               | Result | Qualifier | Units | RPD | Limit      | Analyzed   |
|----------------------------------|--------|-------------------------|--------|-----------|-------|-----|------------|------------|
| MET-200.2-CCMS-WT                | Soil   |                         |        |           |       |     |            |            |
| Batch R4781779                   |        |                         |        |           |       |     |            |            |
| WG3149974-2 CRM                  |        | WT-CANMET-              |        |           | 0/    |     |            |            |
| Copper (Cu)                      |        |                         | 100.2  |           | %     |     | 70-130     | 03-SEP-19  |
| Lead (Pb)                        |        |                         | 97.8   |           | %     |     | 70-130     | 03-SEP-19  |
| Molybdenum (Mo)                  |        |                         | 105.6  |           | %     |     | 70-130     | 03-SEP-19  |
| Nickel (Ni)                      |        |                         | 101.4  |           | %     |     | 70-130     | 03-SEP-19  |
| Selenium (Se)                    |        |                         | 0.31   |           | mg/kg |     | 0.11-0.51  | 03-SEP-19  |
| Silver (Ag)                      |        |                         | 0.24   |           | mg/kg |     | 0.13-0.33  | 03-SEP-19  |
| Thallium (TI)                    |        |                         | 0.123  |           | mg/kg |     | 0.077-0.18 |            |
| Uranium (U)                      |        |                         | 102.3  |           | %     |     | 70-130     | 03-SEP-19  |
| Vanadium (V)                     |        |                         | 103.9  |           | %     |     | 70-130     | 03-SEP-19  |
| Zinc (Zn)                        |        |                         | 98.0   |           | %     |     | 70-130     | 03-SEP-19  |
| WG3149974-6 DUP<br>Antimony (Sb) |        | <b>WG3149974-5</b> 0.24 | 0.26   |           | ug/g  | 7.7 | 30         | 03-SEP-19  |
| Arsenic (As)                     |        | 5.96                    | 6.19   |           | ug/g  | 3.7 | 30         | 03-SEP-19  |
| Barium (Ba)                      |        | 90.3                    | 93.1   |           | ug/g  | 3.1 | 40         | 03-SEP-19  |
| Beryllium (Be)                   |        | 0.81                    | 0.80   |           | ug/g  | 1.4 | 30         | 03-SEP-19  |
| Boron (B)                        |        | 10.6                    | 10.0   |           | ug/g  | 5.6 | 30         | 03-SEP-19  |
| Cadmium (Cd)                     |        | 0.172                   | 0.189  |           | ug/g  | 9.4 | 30         | 03-SEP-19  |
| Chromium (Cr)                    |        | 25.5                    | 26.6   |           | ug/g  | 3.9 | 30         | 03-SEP-19  |
| Cobalt (Co)                      |        | 10.9                    | 11.3   |           | ug/g  | 4.1 | 30         | 03-SEP-19  |
| Copper (Cu)                      |        | 31.2                    | 32.4   |           | ug/g  | 3.8 | 30         | 03-SEP-19  |
| Lead (Pb)                        |        | 22.6                    | 23.6   |           | ug/g  | 4.3 | 40         | 03-SEP-19  |
| Molybdenum (Mo)                  |        | 0.51                    | 0.53   |           | ug/g  | 3.9 | 40         | 03-SEP-19  |
| Nickel (Ni)                      |        | 25.6                    | 27.2   |           | ug/g  | 5.9 | 30         | 03-SEP-19  |
| Selenium (Se)                    |        | <0.20                   | <0.20  | RPD-NA    | ug/g  | N/A | 30         | 03-SEP-19  |
| Silver (Ag)                      |        | <0.10                   | <0.10  | RPD-NA    | ug/g  | N/A | 40         | 03-SEP-19  |
| Thallium (TI)                    |        | 0.163                   | 0.164  |           | ug/g  | 0.6 | 30         | 03-SEP-19  |
| Uranium (U)                      |        | 0.681                   | 0.708  |           | ug/g  | 3.8 | 30         | 03-SEP-19  |
| Vanadium (V)                     |        | 34.5                    | 35.4   |           | ug/g  | 2.7 | 30         | 03-SEP-19  |
| Zinc (Zn)                        |        | 105                     | 109    |           | ug/g  | 3.8 | 30         | 03-SEP-19  |
| WG3149974-4 LCS<br>Antimony (Sb) |        |                         | 104.2  |           | %     |     | 80-120     | 03-SEP-19  |
| Arsenic (As)                     |        |                         | 96.0   |           | %     |     | 80-120     | 03-SEP-19  |
| Barium (Ba)                      |        |                         | 98.0   |           | %     |     | 80-120     | 03-SEP-19  |
| _3(_3)                           |        |                         | 30.0   |           | . •   |     | JU-120     | 00-0L1 -18 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test              | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------|--------|-----------|--------|-----------|-------|-----|--------|-----------|
| MET-200.2-CCMS-WT | Soil   |           |        |           |       |     |        |           |
| Batch R4781779    |        |           |        |           |       |     |        |           |
| WG3149974-4 LCS   |        |           |        |           | 0.4   |     |        |           |
| Beryllium (Be)    |        |           | 92.4   |           | %     |     | 80-120 | 03-SEP-19 |
| Boron (B)         |        |           | 90.4   |           | %     |     | 80-120 | 03-SEP-19 |
| Cadmium (Cd)      |        |           | 95.8   |           | %     |     | 80-120 | 03-SEP-19 |
| Chromium (Cr)     |        |           | 95.9   |           | %     |     | 80-120 | 03-SEP-19 |
| Cobalt (Co)       |        |           | 94.6   |           | %     |     | 80-120 | 03-SEP-19 |
| Copper (Cu)       |        |           | 91.7   |           | %     |     | 80-120 | 03-SEP-19 |
| Lead (Pb)         |        |           | 96.4   |           | %     |     | 80-120 | 03-SEP-19 |
| Molybdenum (Mo)   |        |           | 101.0  |           | %     |     | 80-120 | 03-SEP-19 |
| Nickel (Ni)       |        |           | 93.9   |           | %     |     | 80-120 | 03-SEP-19 |
| Selenium (Se)     |        |           | 94.6   |           | %     |     | 80-120 | 03-SEP-19 |
| Silver (Ag)       |        |           | 90.6   |           | %     |     | 80-120 | 03-SEP-19 |
| Thallium (TI)     |        |           | 93.9   |           | %     |     | 80-120 | 03-SEP-19 |
| Uranium (U)       |        |           | 97.5   |           | %     |     | 80-120 | 03-SEP-19 |
| Vanadium (V)      |        |           | 99.2   |           | %     |     | 80-120 | 03-SEP-19 |
| Zinc (Zn)         |        |           | 90.8   |           | %     |     | 80-120 | 03-SEP-19 |
| WG3149974-1 MB    |        |           |        |           |       |     |        |           |
| Antimony (Sb)     |        |           | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Arsenic (As)      |        |           | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Barium (Ba)       |        |           | <0.50  |           | mg/kg |     | 0.5    | 03-SEP-19 |
| Beryllium (Be)    |        |           | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Boron (B)         |        |           | <5.0   |           | mg/kg |     | 5      | 03-SEP-19 |
| Cadmium (Cd)      |        |           | <0.020 |           | mg/kg |     | 0.02   | 03-SEP-19 |
| Chromium (Cr)     |        |           | <0.50  |           | mg/kg |     | 0.5    | 03-SEP-19 |
| Cobalt (Co)       |        |           | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Copper (Cu)       |        |           | < 0.50 |           | mg/kg |     | 0.5    | 03-SEP-19 |
| Lead (Pb)         |        |           | < 0.50 |           | mg/kg |     | 0.5    | 03-SEP-19 |
| Molybdenum (Mo)   |        |           | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Nickel (Ni)       |        |           | < 0.50 |           | mg/kg |     | 0.5    | 03-SEP-19 |
| Selenium (Se)     |        |           | <0.20  |           | mg/kg |     | 0.2    | 03-SEP-19 |
| Silver (Ag)       |        |           | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Thallium (TI)     |        |           | <0.050 |           | mg/kg |     | 0.05   | 03-SEP-19 |
| Uranium (U)       |        |           | <0.050 |           | mg/kg |     | 0.05   | 03-SEP-19 |
| Vanadium (V)      |        |           | <0.20  |           | mg/kg |     | 0.2    | 03-SEP-19 |
| Zinc (Zn)         |        |           | <2.0   |           | mg/kg |     | 2      | 03-SEP-19 |
|                   |        |           |        |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test              | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit      | Analyzed  |
|-------------------|--------|------------|--------|-----------|-------|-----|------------|-----------|
| MET-200.2-CCMS-WT | Soil   |            |        |           |       |     |            |           |
| Batch R4782034    |        |            |        |           |       |     |            |           |
| WG3149978-2 CRM   |        | WT-CANMET  |        |           |       |     |            |           |
| Antimony (Sb)     |        |            | 101.3  |           | %     |     | 70-130     | 03-SEP-19 |
| Arsenic (As)      |        |            | 99.8   |           | %     |     | 70-130     | 03-SEP-19 |
| Barium (Ba)       |        |            | 97.0   |           | %     |     | 70-130     | 03-SEP-19 |
| Beryllium (Be)    |        |            | 96.8   |           | %     |     | 70-130     | 03-SEP-19 |
| Boron (B)         |        |            | 3.0    |           | mg/kg |     | 0-8.2      | 03-SEP-19 |
| Cadmium (Cd)      |        |            | 97.1   |           | %     |     | 70-130     | 03-SEP-19 |
| Chromium (Cr)     |        |            | 102.3  |           | %     |     | 70-130     | 03-SEP-19 |
| Cobalt (Co)       |        |            | 99.2   |           | %     |     | 70-130     | 03-SEP-19 |
| Copper (Cu)       |        |            | 100.8  |           | %     |     | 70-130     | 03-SEP-19 |
| Lead (Pb)         |        |            | 97.2   |           | %     |     | 70-130     | 03-SEP-19 |
| Molybdenum (Mo)   |        |            | 103.4  |           | %     |     | 70-130     | 03-SEP-19 |
| Nickel (Ni)       |        |            | 99.7   |           | %     |     | 70-130     | 03-SEP-19 |
| Selenium (Se)     |        |            | 0.31   |           | mg/kg |     | 0.11-0.51  | 03-SEP-19 |
| Silver (Ag)       |        |            | 0.24   |           | mg/kg |     | 0.13-0.33  | 03-SEP-19 |
| Thallium (TI)     |        |            | 0.121  |           | mg/kg |     | 0.077-0.18 | 03-SEP-19 |
| Uranium (U)       |        |            | 102.3  |           | %     |     | 70-130     | 03-SEP-19 |
| Vanadium (V)      |        |            | 102.6  |           | %     |     | 70-130     | 03-SEP-19 |
| Zinc (Zn)         |        |            | 98.7   |           | %     |     | 70-130     | 03-SEP-19 |
| WG3149978-6 DUP   |        | WG3149978- | 5      |           |       |     |            |           |
| Antimony (Sb)     |        | <0.10      | <0.10  | RPD-NA    | ug/g  | N/A | 30         | 03-SEP-19 |
| Arsenic (As)      |        | 2.41       | 2.42   |           | ug/g  | 0.2 | 30         | 03-SEP-19 |
| Barium (Ba)       |        | 37.8       | 44.0   |           | ug/g  | 15  | 40         | 03-SEP-19 |
| Beryllium (Be)    |        | 0.35       | 0.36   |           | ug/g  | 2.5 | 30         | 03-SEP-19 |
| Boron (B)         |        | 7.3        | 7.0    |           | ug/g  | 3.7 | 30         | 03-SEP-19 |
| Cadmium (Cd)      |        | 0.268      | 0.295  |           | ug/g  | 9.6 | 30         | 03-SEP-19 |
| Chromium (Cr)     |        | 14.2       | 14.2   |           | ug/g  | 0.1 | 30         | 03-SEP-19 |
| Cobalt (Co)       |        | 5.36       | 5.33   |           | ug/g  | 0.6 | 30         | 03-SEP-19 |
| Copper (Cu)       |        | 13.4       | 13.5   |           | ug/g  | 0.2 | 30         | 03-SEP-19 |
| Lead (Pb)         |        | 9.87       | 9.82   |           | ug/g  | 0.5 | 40         | 03-SEP-19 |
| Molybdenum (Mo)   |        | 0.28       | 0.26   |           | ug/g  | 4.3 | 40         | 03-SEP-19 |
| Nickel (Ni)       |        | 11.6       | 11.5   |           | ug/g  | 1.7 | 30         | 03-SEP-19 |
| Selenium (Se)     |        | <0.20      | <0.20  | RPD-NA    | ug/g  | N/A | 30         | 03-SEP-19 |
| Silver (Ag)       |        | <0.10      | <0.10  | RPD-NA    | ug/g  | N/A | 40         | 03-SEP-19 |
| . 3/              |        |            |        | =         |       | , - | =          |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                             | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|----------------------------------|--------|-------------|--------|-----------|-------|-----|--------|-----------|
| MET-200.2-CCMS-WT                | Soil   |             |        |           |       |     |        |           |
| Batch R4782034                   |        |             |        |           |       |     |        |           |
| WG3149978-6 DUP                  |        | WG3149978-5 |        |           |       |     |        |           |
| Thallium (TI)                    |        | 0.104       | 0.103  |           | ug/g  | 1.0 | 30     | 03-SEP-19 |
| Uranium (U)                      |        | 0.466       | 0.488  |           | ug/g  | 4.6 | 30     | 03-SEP-19 |
| Vanadium (V)                     |        | 23.9        | 23.8   |           | ug/g  | 0.6 | 30     | 03-SEP-19 |
| Zinc (Zn)                        |        | 114         | 114    |           | ug/g  | 0.4 | 30     | 03-SEP-19 |
| WG3149978-4 LCS<br>Antimony (Sb) |        |             | 110.8  |           | %     |     | 80-120 | 03-SEP-19 |
| Arsenic (As)                     |        |             | 105.0  |           | %     |     | 80-120 | 03-SEP-19 |
| Barium (Ba)                      |        |             | 103.4  |           | %     |     | 80-120 | 03-SEP-19 |
| Beryllium (Be)                   |        |             | 99.6   |           | %     |     | 80-120 | 03-SEP-19 |
| Boron (B)                        |        |             | 91.3   |           | %     |     | 80-120 | 03-SEP-19 |
| Cadmium (Cd)                     |        |             | 102.3  |           | %     |     | 80-120 | 03-SEP-19 |
| Chromium (Cr)                    |        |             | 106.5  |           | %     |     | 80-120 | 03-SEP-19 |
| Cobalt (Co)                      |        |             | 103.3  |           | %     |     | 80-120 | 03-SEP-19 |
| Copper (Cu)                      |        |             | 101.5  |           | %     |     | 80-120 | 03-SEP-19 |
| Lead (Pb)                        |        |             | 104.9  |           | %     |     | 80-120 | 03-SEP-19 |
| Molybdenum (Mo)                  |        |             | 108.3  |           | %     |     | 80-120 | 03-SEP-19 |
| Nickel (Ni)                      |        |             | 102.9  |           | %     |     | 80-120 | 03-SEP-19 |
| Selenium (Se)                    |        |             | 103.7  |           | %     |     | 80-120 | 03-SEP-19 |
| Silver (Ag)                      |        |             | 98.2   |           | %     |     | 80-120 | 03-SEP-19 |
| Thallium (TI)                    |        |             | 102.0  |           | %     |     | 80-120 | 03-SEP-19 |
| Uranium (U)                      |        |             | 106.4  |           | %     |     | 80-120 | 03-SEP-19 |
| Vanadium (V)                     |        |             | 107.5  |           | %     |     | 80-120 | 03-SEP-19 |
| Zinc (Zn)                        |        |             | 100.1  |           | %     |     | 80-120 | 03-SEP-19 |
| WG3149978-1 MB                   |        |             |        |           |       |     |        |           |
| Antimony (Sb)                    |        |             | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Arsenic (As)                     |        |             | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Barium (Ba)                      |        |             | <0.50  |           | mg/kg |     | 0.5    | 03-SEP-19 |
| Beryllium (Be)                   |        |             | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Boron (B)                        |        |             | <5.0   |           | mg/kg |     | 5      | 03-SEP-19 |
| Cadmium (Cd)                     |        |             | <0.020 |           | mg/kg |     | 0.02   | 03-SEP-19 |
| Chromium (Cr)                    |        |             | <0.50  |           | mg/kg |     | 0.5    | 03-SEP-19 |
| Cobalt (Co)                      |        |             | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Copper (Cu)                      |        |             | <0.50  |           | mg/kg |     | 0.5    | 03-SEP-19 |
| Lead (Pb)                        |        |             | <0.50  |           | mg/kg |     | 0.5    | 03-SEP-19 |



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CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

| Test                                                | Matrix | Reference                 | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-----------------------------------------------------|--------|---------------------------|--------|-----------|-------|-----|--------|-----------|
| MET-200.2-CCMS-WT                                   | Soil   |                           |        |           |       |     |        |           |
| Batch R4782034<br>WG3149978-1 MB<br>Molybdenum (Mo) |        |                           | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Nickel (Ni)                                         |        |                           | <0.50  |           | mg/kg |     | 0.5    | 03-SEP-19 |
| Selenium (Se)                                       |        |                           | <0.20  |           | mg/kg |     | 0.2    | 03-SEP-19 |
| Silver (Ag)                                         |        |                           | <0.10  |           | mg/kg |     | 0.1    | 03-SEP-19 |
| Thallium (TI)                                       |        |                           | <0.050 |           | mg/kg |     | 0.05   | 03-SEP-19 |
| Uranium (U)                                         |        |                           | <0.050 |           | mg/kg |     | 0.05   | 03-SEP-19 |
| Vanadium (V)                                        |        |                           | <0.20  |           | mg/kg |     | 0.2    | 03-SEP-19 |
| Zinc (Zn)                                           |        |                           | <2.0   |           | mg/kg |     | 2      | 03-SEP-19 |
| MOISTURE-WT                                         | Soil   |                           |        |           |       |     |        |           |
| Batch R4774952                                      |        |                           |        |           |       |     |        |           |
| WG3146518-3 DUP<br>% Moisture                       |        | <b>L2337674-3</b><br>4.03 | 3.93   |           | %     | 2.7 | 20     | 29-AUG-19 |
| <b>WG3146518-2 LCS</b> % Moisture                   |        |                           | 100.8  |           | %     |     | 90-110 | 29-AUG-19 |
| <b>WG3146518-1 MB</b><br>% Moisture                 |        |                           | <0.10  |           | %     |     | 0.1    | 29-AUG-19 |
| Batch R4774953                                      |        |                           |        |           |       |     |        |           |
| <b>WG3146537-3 DUP</b> % Moisture                   |        | <b>L2337866-1</b> 3.26    | 3.17   |           | %     | 2.9 | 20     | 29-AUG-19 |
| WG3146537-2 LCS<br>% Moisture                       |        |                           | 100.5  |           | %     |     | 90-110 | 29-AUG-19 |
| <b>WG3146537-1 MB</b><br>% Moisture                 |        |                           | <0.10  |           | %     |     | 0.1    | 29-AUG-19 |
| PAH-511-WT                                          | Soil   |                           |        |           |       |     |        |           |
| Batch R4777587                                      |        |                           |        |           |       |     |        |           |
| WG3145347-3 DUP                                     |        | WG3145347-5               |        |           |       |     |        |           |
| 1-Methylnaphthalene                                 |        | <0.030                    | <0.030 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| 2-Methylnaphthalene                                 |        | <0.030                    | <0.030 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Acenaphthene                                        |        | <0.050                    | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Acenaphthylene                                      |        | <0.050                    | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Anthracene                                          |        | <0.050                    | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(a)anthracene                                  |        | <0.050                    | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(a)pyrene                                      |        | <0.050                    | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(b)fluoranthene                                |        | <0.050                    | <0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(g,h,i)perylene                                |        | <0.050                    | <0.050 |           | ug/g  |     |        |           |



Contact:

# **Quality Control Report**

Workorder: L2336718 Report Date: 18-SEP-19 Page 9 of 23

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Andrew Vermeersch

| Test                                        | Matrix | Reference                | Result          | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------------|--------|--------------------------|-----------------|-----------|-------|-----|--------|-----------|
| PAH-511-WT                                  | Soil   |                          |                 |           |       |     |        |           |
| Batch R4777587                              |        |                          |                 |           |       |     |        |           |
| <b>WG3145347-3 DUP</b> Benzo(g,h,i)perylene |        | <b>WG3145347</b> -<0.050 | <b>5</b> <0.050 | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Benzo(k)fluoranthene                        |        | <0.050                   | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Chrysene                                    |        | <0.050                   | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Dibenzo(ah)anthracene                       |        | <0.050                   | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Fluoranthene                                |        | <0.050                   | <0.050          | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Fluorene                                    |        | <0.050                   | <0.050          | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Indeno(1,2,3-cd)pyrene                      |        | <0.050                   | <0.050          | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Naphthalene                                 |        | <0.013                   | <0.013          | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Phenanthrene                                |        | <0.046                   | <0.046          | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| Pyrene                                      |        | <0.050                   | <0.050          | RPD-NA    | ug/g  | N/A | 40     | 29-AUG-19 |
| WG3145347-2 LCS<br>1-Methylnaphthalene      |        |                          | 101.1           |           | %     |     | 50-140 | 29-AUG-19 |
| 2-Methylnaphthalene                         |        |                          | 94.1            |           | %     |     | 50-140 | 29-AUG-19 |
| Acenaphthene                                |        |                          | 100.2           |           | %     |     | 50-140 | 29-AUG-19 |
| Acenaphthylene                              |        |                          | 100.8           |           | %     |     | 50-140 | 29-AUG-19 |
| Anthracene                                  |        |                          | 101.3           |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(a)anthracene                          |        |                          | 100.8           |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(a)pyrene                              |        |                          | 99.99           |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(b)fluoranthene                        |        |                          | 94.6            |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(g,h,i)perylene                        |        |                          | 100.2           |           | %     |     | 50-140 | 29-AUG-19 |
| Benzo(k)fluoranthene                        |        |                          | 108.6           |           | %     |     | 50-140 | 29-AUG-19 |
| Chrysene                                    |        |                          | 109.9           |           | %     |     | 50-140 | 29-AUG-19 |
| Dibenzo(ah)anthracene                       |        |                          | 100.6           |           | %     |     | 50-140 | 29-AUG-19 |
| Fluoranthene                                |        |                          | 102.1           |           | %     |     | 50-140 | 29-AUG-19 |
| Fluorene                                    |        |                          | 97.4            |           | %     |     | 50-140 | 29-AUG-19 |
| Indeno(1,2,3-cd)pyrene                      |        |                          | 99.8            |           | %     |     | 50-140 | 29-AUG-19 |
| Naphthalene                                 |        |                          | 98.0            |           | %     |     | 50-140 | 29-AUG-19 |
| Phenanthrene                                |        |                          | 103.9           |           | %     |     | 50-140 | 29-AUG-19 |
| Pyrene                                      |        |                          | 102.2           |           | %     |     | 50-140 | 29-AUG-19 |
| WG3145347-1 MB<br>1-Methylnaphthalene       |        |                          | <0.030          |           | ug/g  |     | 0.03   | 29-AUG-19 |
| 2-Methylnaphthalene                         |        |                          | <0.030          |           | ug/g  |     | 0.03   | 29-AUG-19 |
| Acenaphthene                                |        |                          | <0.050          |           | ug/g  |     | 0.05   | 29-AUG-19 |
| Acenaphthylene                              |        |                          | <0.050          |           | ug/g  |     | 0.05   | 29-AUG-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Batch R4777587           WG3145347-1 MB         Anthracene         <0.050         ug/g         0.05         29-AUG-19           Benzo(a)anthracene         <0.050         ug/g         0.05         29-AUG-19           Benzo(a)pyrene         <0.050         ug/g         0.05         29-AUG-19           Benzo(b)Huoranthene         <0.050         ug/g         0.05         29-AUG-19           Benzo(k)Huoranthene         <0.050         ug/g         0.05         29-AUG-19           Benzo(k)Huoranthene         <0.050         ug/g         0.05         29-AUG-19           Chrysene         <0.050         ug/g         0.05         29-AUG-19           Dibenzo(a)hanthracene         <0.050         ug/g         0.05         29-AUG-19           Fluoranthene         <0.050         ug/g         0.05         29-AUG-19           Fluorene         <0.050         ug/g         0.05         29-AUG-19           Fluorene         <0.050         ug/g         0.05         29-AUG-19           Naphthalene         <0.050         ug/g         0.05         29-AUG-19           Naphthalene         <0.013         ug/g         0.04         29-AUG-19           Surrogate: 2-Fluorobiphenyl                                                                                                                                | Test                    | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------|-------------|--------|-----------|-------|-----|--------|------------|
| Anthracene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PAH-511-WT              | Soil   |             |        |           |       |     |        |            |
| Anthracene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Batch R4777587          |        |             |        |           |       |     |        |            |
| Benzo(a)anthracene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         |        |             | -0.050 |           | ua/a  |     | 0.05   | 00 1110 10 |
| Benzo(a)pyrene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         |        |             |        |           |       |     |        |            |
| Benzo(b)fluoranthene         <0.050         ug/g         0.05         29-AUG-19           Benzo(k)fluoranthene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         |        |             |        |           |       |     |        |            |
| Benzo(g,h.i)perylene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |        |             |        |           |       |     |        |            |
| Benzo(k)fluoranthene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | , ,                     |        |             |        |           |       |     |        |            |
| Chrysene         <0.050         ug/g         0.05         29-AUG-19           Dibenzo(ah)anthracene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         |        |             |        |           |       |     |        |            |
| Dibenzo(ah)anthracene         <0.050         ug/g         0.05         29-AUG-19           Fluoranthene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                         |        |             |        |           |       |     |        |            |
| Fluoranthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -                       |        |             |        |           |       |     |        |            |
| Fluorene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                         |        |             |        |           |       |     |        |            |
| Indeno(1,2,3-cd)pyrene   <0.050   ug/g   0.05   29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         |        |             |        |           |       |     |        |            |
| Naphthalene         <0.013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         |        |             |        |           |       |     |        | 29-AUG-19  |
| Phenanthrene         <0.046         ug/g         0.046         29-AUG-19           Pyrene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | , , , , , , , ,         |        |             |        |           |       |     |        | 29-AUG-19  |
| Pyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                         |        |             |        |           |       |     |        | 29-AUG-19  |
| Surrogate: 2-Fluorobiphenyl         104.3         %         50-140         29-AUG-19           Surrogate: p-Terphenyl d14         96.7         %         50-140         29-AUG-19           WG3145347-4         MS         WG3145347-5         WG3145347-5         WG3145347-5         WG3145347-5           1-Methylnaphthalene         107.0         %         50-140         29-AUG-19           2-Methylnaphthalene         99.6         %         50-140         29-AUG-19           Acenaphthene         105.5         %         50-140         29-AUG-19           Acenaphthylene         105.9         %         50-140         29-AUG-19           Anthracene         104.5         %         50-140         29-AUG-19           Anthracene         103.4         %         50-140         29-AUG-19           Benzo(a)anthracene         103.4         %         50-140         29-AUG-19           Benzo(b)fluoranthene         97.4         %         50-140         29-AUG-19           Benzo(b,ri)perylene         101.9         %         50-140         29-AUG-19           Benzo(k)fluoranthene         114.1         %         50-140         29-AUG-19           Chrysene         114.0         %                                                                                                                       | Phenanthrene            |        |             |        |           | ug/g  |     |        | 29-AUG-19  |
| Surrogate: p-Terphenyl d14         96.7         %         50-140         29-AUG-19           WG3145347-4         MS         WG3145347-5         Solid (19)         29-AUG-19           1-Methylnaphthalene         107.0         %         50-140         29-AUG-19           2-Methylnaphthalene         99.6         %         50-140         29-AUG-19           Acenaphthene         105.5         %         50-140         29-AUG-19           Acenaphthylene         105.9         %         50-140         29-AUG-19           Anthracene         104.5         %         50-140         29-AUG-19           Benzo(a)anthracene         103.4         %         50-140         29-AUG-19           Benzo(a)pyrene         103.2         %         50-140         29-AUG-19           Benzo(b)fluoranthene         97.4         %         50-140         29-AUG-19           Benzo(b)fluoranthene         101.9         %         50-140         29-AUG-19           Benzo(k)fluoranthene         114.1         %         50-140         29-AUG-19           Chrysene         114.0         %         50-140         29-AUG-19           Chrysene         114.0         %         50-140         29-AUG-19 <td>Pyrene</td> <td></td> <td></td> <td>&lt;0.050</td> <td></td> <td>ug/g</td> <td></td> <td>0.05</td> <td>29-AUG-19</td> | Pyrene                  |        |             | <0.050 |           | ug/g  |     | 0.05   | 29-AUG-19  |
| WG3145347-4         MS         WG3145347-5           1-Methylnaphthalene         107.0         %         50-140         29-AUG-19           2-Methylnaphthalene         99.6         %         50-140         29-AUG-19           Acenaphthene         105.5         %         50-140         29-AUG-19           Acenaphthylene         105.9         %         50-140         29-AUG-19           Anthracene         104.5         %         50-140         29-AUG-19           Benzo(a)anthracene         103.4         %         50-140         29-AUG-19           Benzo(a)pyrene         103.2         %         50-140         29-AUG-19           Benzo(b)fluoranthene         97.4         %         50-140         29-AUG-19           Benzo(g,h,i)perylene         101.9         %         50-140         29-AUG-19           Benzo(k)fluoranthene         114.1         %         50-140         29-AUG-19           Benzo(k)fluoranthene         114.0         %         50-140         29-AUG-19           Chrysene         114.0         %         50-140         29-AUG-19           Chrysene         103.0         %         50-140         29-AUG-19           Fluoranthene         105.7<                                                                                                                               | Surrogate: 2-Fluorobiph | ienyl  |             | 104.3  |           | %     |     | 50-140 | 29-AUG-19  |
| 1-Methylnaphthalene       107.0       %       50-140       29-AUG-19         2-Methylnaphthalene       99.6       %       50-140       29-AUG-19         Acenaphthene       105.5       %       50-140       29-AUG-19         Acenaphthylene       105.9       %       50-140       29-AUG-19         Anthracene       104.5       %       50-140       29-AUG-19         Benzo(a)anthracene       103.4       %       50-140       29-AUG-19         Benzo(a)pyrene       103.2       %       50-140       29-AUG-19         Benzo(b)fluoranthene       97.4       %       50-140       29-AUG-19         Benzo(k)fluoranthene       101.9       %       50-140       29-AUG-19         Benzo(k)fluoranthene       114.1       %       50-140       29-AUG-19         Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19                                                                                                                                                                                                    | Surrogate: p-Terphenyl  | d14    |             | 96.7   |           | %     |     | 50-140 | 29-AUG-19  |
| 2-Methylnaphthalene       99.6       %       50-140       29-AUG-19         Acenaphthene       105.5       %       50-140       29-AUG-19         Acenaphthylene       105.9       %       50-140       29-AUG-19         Anthracene       104.5       %       50-140       29-AUG-19         Benzo(a)anthracene       103.4       %       50-140       29-AUG-19         Benzo(a)pyrene       103.2       %       50-140       29-AUG-19         Benzo(b)fluoranthene       97.4       %       50-140       29-AUG-19         Benzo(g,h,i)perylene       101.9       %       50-140       29-AUG-19         Benzo(k)fluoranthene       114.1       %       50-140       29-AUG-19         Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluoranthene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19 </td <td></td> <td></td> <td>WG3145347-5</td> <td>407.0</td> <td></td> <td>0/</td> <td></td> <td></td> <td></td>                                                                                       |                         |        | WG3145347-5 | 407.0  |           | 0/    |     |        |            |
| Acenaphthene       105.5       %       50-140       29-AUG-19         Acenaphthylene       105.9       %       50-140       29-AUG-19         Anthracene       104.5       %       50-140       29-AUG-19         Benzo(a)anthracene       103.4       %       50-140       29-AUG-19         Benzo(a)pyrene       103.2       %       50-140       29-AUG-19         Benzo(b)fluoranthene       97.4       %       50-140       29-AUG-19         Benzo(g,h,i)perylene       101.9       %       50-140       29-AUG-19         Benzo(k)fluoranthene       114.1       %       50-140       29-AUG-19         Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                        |                         |        |             |        |           |       |     |        |            |
| Acenaphthylene       105.9       %       50-140       29-AUG-19         Anthracene       104.5       %       50-140       29-AUG-19         Benzo(a)anthracene       103.4       %       50-140       29-AUG-19         Benzo(a)pyrene       103.2       %       50-140       29-AUG-19         Benzo(b)fluoranthene       97.4       %       50-140       29-AUG-19         Benzo(g,h,i)perylene       101.9       %       50-140       29-AUG-19         Benzo(k)fluoranthene       114.1       %       50-140       29-AUG-19         Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                              |                         |        |             |        |           |       |     | 50-140 |            |
| Anthracene 104.5 % 50-140 29-AUG-19 Benzo(a)anthracene 103.4 % 50-140 29-AUG-19 Benzo(a)pyrene 103.2 % 50-140 29-AUG-19 Benzo(b)fluoranthene 97.4 % 50-140 29-AUG-19 Benzo(g,h,i)perylene 101.9 % 50-140 29-AUG-19 Benzo(k)fluoranthene 114.1 % 50-140 29-AUG-19 Chrysene 114.0 % 50-140 29-AUG-19 Dibenzo(ah)anthracene 103.0 % 50-140 29-AUG-19 Fluoranthene 105.7 % 50-140 29-AUG-19 Fluorene 102.2 % 50-140 29-AUG-19 Indeno(1,2,3-cd)pyrene 96.0 % 50-140 29-AUG-19 Naphthalene 103.4 % 50-140 29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         |        |             |        |           |       |     | 50-140 |            |
| Benzo(a)anthracene       103.4       %       50-140       29-AUG-19         Benzo(a)pyrene       103.2       %       50-140       29-AUG-19         Benzo(b)fluoranthene       97.4       %       50-140       29-AUG-19         Benzo(g,h,i)perylene       101.9       %       50-140       29-AUG-19         Benzo(k)fluoranthene       114.1       %       50-140       29-AUG-19         Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         |        |             |        |           |       |     | 50-140 | 29-AUG-19  |
| Benzo(a)pyrene       103.2       %       50-140       29-AUG-19         Benzo(b)fluoranthene       97.4       %       50-140       29-AUG-19         Benzo(g,h,i)perylene       101.9       %       50-140       29-AUG-19         Benzo(k)fluoranthene       114.1       %       50-140       29-AUG-19         Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |        |             |        |           |       |     | 50-140 |            |
| Benzo(b)fluoranthene       97.4       %       50-140       29-AUG-19         Benzo(g,h,i)perylene       101.9       %       50-140       29-AUG-19         Benzo(k)fluoranthene       114.1       %       50-140       29-AUG-19         Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         |        |             |        |           |       |     | 50-140 | 29-AUG-19  |
| Benzo(g,h,i)perylene       101.9       %       50-140       29-AUG-19         Benzo(k)fluoranthene       114.1       %       50-140       29-AUG-19         Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |        |             |        |           |       |     | 50-140 | 29-AUG-19  |
| Benzo(k)fluoranthene       114.1       %       50-140       29-AUG-19         Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         |        |             |        |           |       |     | 50-140 | 29-AUG-19  |
| Chrysene       114.0       %       50-140       29-AUG-19         Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |        |             |        |           | %     |     | 50-140 | 29-AUG-19  |
| Dibenzo(ah)anthracene       103.0       %       50-140       29-AUG-19         Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Benzo(k)fluoranthene    |        |             |        |           | %     |     | 50-140 | 29-AUG-19  |
| Fluoranthene       105.7       %       50-140       29-AUG-19         Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Chrysene                |        |             | 114.0  |           |       |     | 50-140 | 29-AUG-19  |
| Fluorene       102.2       %       50-140       29-AUG-19         Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Dibenzo(ah)anthracene   |        |             | 103.0  |           |       |     | 50-140 | 29-AUG-19  |
| Indeno(1,2,3-cd)pyrene       96.0       %       50-140       29-AUG-19         Naphthalene       103.4       %       50-140       29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Fluoranthene            |        |             | 105.7  |           | %     |     | 50-140 | 29-AUG-19  |
| Naphthalene 103.4 % 50-140 29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Fluorene                |        |             | 102.2  |           | %     |     | 50-140 | 29-AUG-19  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Indeno(1,2,3-cd)pyrene  |        |             | 96.0   |           | %     |     | 50-140 | 29-AUG-19  |
| Dhanashhana                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Naphthalene             |        |             | 103.4  |           | %     |     | 50-140 | 29-AUG-19  |
| Prienantifrene 108.2 % 50-140 29-AUG-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Phenanthrene            |        |             | 108.2  |           | %     |     | 50-140 | 29-AUG-19  |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                        | Matrix | Reference                 | Result      | Qualifier | Units    | RPD  | Limit   | Analyzed  |
|---------------------------------------------|--------|---------------------------|-------------|-----------|----------|------|---------|-----------|
| PAH-511-WT                                  | Soil   |                           |             |           |          |      |         |           |
| <b>Batch R4777587 WG3145347-4 MS</b> Pyrene |        | WG3145347-5               | 106.4       |           | %        |      | 50-140  | 29-AUG-19 |
| PH-WT                                       | Soil   |                           |             |           |          |      |         |           |
| Batch R4782107<br>WG3146310-1 DUP<br>pH     |        | <b>L2337161-1</b><br>8.06 | 8.13        | J         | pH units | 0.07 | 0.3     | 03-SEP-19 |
| <b>WG3150094-1 LCS</b><br>pH                |        |                           | 6.96        |           | pH units |      | 6.9-7.1 | 03-SEP-19 |
| SAR-R511-WT                                 | Soil   |                           |             |           |          |      |         |           |
| Batch R4781970<br>WG3149994-4 DUP           |        | WG3149994-3               | 07.5        |           | //       |      |         |           |
| Calcium (Ca)                                |        | 101                       | 87.5        |           | mg/L     | 14   | 30      | 03-SEP-19 |
| Sodium (Na)                                 |        | 110<br>74.8               | 112<br>60.6 |           | mg/L     | 1.8  | 30      | 03-SEP-19 |
| Magnesium (Mg)                              |        |                           | 60.6        |           | mg/L     | 21   | 30      | 03-SEP-19 |
| WG3149994-2 IRM<br>Calcium (Ca)             |        | WT SAR3                   | 100.2       |           | %        |      | 70-130  | 03-SEP-19 |
| Sodium (Na)                                 |        |                           | 107.8       |           | %        |      | 70-130  | 03-SEP-19 |
| Magnesium (Mg)                              |        |                           | 103.8       |           | %        |      | 70-130  | 03-SEP-19 |
| WG3149994-5 LCS                             |        |                           |             |           |          |      |         |           |
| Calcium (Ca)                                |        |                           | 105.7       |           | %        |      | 70-130  | 03-SEP-19 |
| Sodium (Na)                                 |        |                           | 101.6       |           | %        |      | 70-130  | 03-SEP-19 |
| Magnesium (Mg)                              |        |                           | 101.6       |           | %        |      | 70-130  | 03-SEP-19 |
| WG3149994-1 MB<br>Calcium (Ca)              |        |                           | <0.50       |           | mg/L     |      | 0.5     | 03-SEP-19 |
| Sodium (Na)                                 |        |                           | <0.50       |           | mg/L     |      | 0.5     | 03-SEP-19 |
| Magnesium (Mg)                              |        |                           | <0.50       |           | mg/L     |      | 0.5     | 03-SEP-19 |
| Batch R4815928                              |        |                           |             |           |          |      |         |           |
| WG3163992-4 DUP                             |        | WG3163992-3               | 40.5        |           |          |      |         |           |
| Calcium (Ca)                                |        | 12.8                      | 12.5        |           | mg/L     | 2.4  | 30      | 17-SEP-19 |
| Sodium (Na)                                 |        | 9.91                      | 8.78        |           | mg/L     | 12   | 30      | 17-SEP-19 |
| Magnesium (Mg)                              |        | 1.26                      | 1.23        |           | mg/L     | 2.4  | 30      | 17-SEP-19 |
| WG3163992-2 IRM<br>Calcium (Ca)             |        | WT SAR3                   | 76.2        |           | %        |      | 70-130  | 17-SEP-19 |
| Sodium (Na)                                 |        |                           | 95.4        |           | %        |      | 70-130  | 17-SEP-19 |
| Magnesium (Mg)                              |        |                           | 84.9        |           | %        |      | 70-130  | 17-SEP-19 |
|                                             |        |                           |             |           |          |      |         |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                        | Matrix | Reference                  | Result         | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------------|--------|----------------------------|----------------|-----------|-------|-----|--------|-----------|
| SAR-R511-WT                                 | Soil   |                            |                |           |       |     |        |           |
| Batch R4815928                              |        |                            |                |           |       |     |        |           |
| WG3163992-5 LCS                             |        |                            | 400.7          |           | 0/    |     | 70.400 | .= 0==    |
| Calcium (Ca)<br>Sodium (Na)                 |        |                            | 106.7<br>104.6 |           | %     |     | 70-130 | 17-SEP-19 |
| Magnesium (Mg)                              |        |                            | 104.8          |           | %     |     | 70-130 | 17-SEP-19 |
| WG3163992-1 MB                              |        |                            | 105.6          |           | 70    |     | 70-130 | 17-SEP-19 |
| Calcium (Ca)                                |        |                            | <0.50          |           | mg/L  |     | 0.5    | 17-SEP-19 |
| Sodium (Na)                                 |        |                            | <0.50          |           | mg/L  |     | 0.5    | 17-SEP-19 |
| Magnesium (Mg)                              |        |                            | <0.50          |           | mg/L  |     | 0.5    | 17-SEP-19 |
| TOC-R511-WT                                 | Soil   |                            |                |           |       |     |        |           |
| Batch R4784023                              |        |                            |                |           |       |     |        |           |
| WG3151721-3 CRM                             |        | WT-TOC-CRM                 | 70.4           |           | 0/    |     |        |           |
| Total Organic Carbon                        |        |                            | 76.4           |           | %     |     | 70-130 | 05-SEP-19 |
| WG3151721-4 DUP Total Organic Carbon        |        | <b>L2335973-5</b><br>1.56  | 1.54           |           | %     | 0.8 | 35     | 05-SEP-19 |
| WG3151721-2 LCS                             |        |                            |                |           |       |     |        |           |
| Total Organic Carbon                        |        |                            | 101.6          |           | %     |     | 80-120 | 05-SEP-19 |
| Total Organic Carbon                        |        |                            | 101.6          |           | %     |     | 80-120 | 05-SEP-19 |
| Total Organic Carbon                        |        |                            | 101.6          |           | %     |     | 80-120 | 05-SEP-19 |
| WG3151721-1 MB                              |        |                            | 0.40           |           | 0/    |     | 0.4    |           |
| Total Organic Carbon                        |        |                            | <0.10          |           | %     |     | 0.1    | 05-SEP-19 |
| VOC-511-HS-WT                               | Soil   |                            |                |           |       |     |        |           |
| Batch R4782458                              |        | W00440040                  |                |           |       |     |        |           |
| WG3148016-4 DUP<br>1,1,1,2-Tetrachloroethar | ne     | <b>WG3148016-3</b> < 0.050 | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,1,2,2-Tetrachloroethar                    | ne     | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,1,1-Trichloroethane                       |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,1,2-Trichloroethane                       |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,1-Dichloroethane                          |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,1-Dichloroethylene                        |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,2-Dibromoethane                           |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,2-Dichlorobenzene                         |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,2-Dichloroethane                          |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,2-Dichloropropane                         |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,3-Dichlorobenzene                         |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| 1,4-Dichlorobenzene                         |        | <0.050                     | <0.050         | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
|                                             |        |                            |                |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                       | Matrix | Reference | Result  | Qualifier | Units | RPD          | Limit  | Analyzed  |
|--------------------------------------------|--------|-----------|---------|-----------|-------|--------------|--------|-----------|
| VOC-511-HS-WT                              | Soil   |           |         |           |       |              |        |           |
| Batch R4782458                             | }      |           |         |           |       |              |        |           |
| WG3148016-4 DUP                            |        | WG3148016 |         | DDD 114   | /a    | <b>N</b> 1/A | 40     |           |
| Acetone                                    |        | <0.50     | <0.50   | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Benzene                                    |        | <0.0068   | <0.0068 | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Bromodichloromethane                       | )      | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Bromoform                                  |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Bromomethane                               |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Carbon tetrachloride                       |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Chlorobenzene                              |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Chloroform                                 |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| cis-1,2-Dichloroethylen                    |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| cis-1,3-Dichloropropene                    |        | <0.030    | <0.030  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Dibromochloromethane                       |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Dichlorodifluoromethan                     | е      | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Ethylbenzene                               |        | <0.018    | <0.018  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| n-Hexane                                   |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Methylene Chloride                         |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| MTBE                                       |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| m+p-Xylenes                                |        | <0.030    | <0.030  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Methyl Ethyl Ketone                        |        | <0.50     | <0.50   | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Methyl Isobutyl Ketone                     |        | <0.50     | <0.50   | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| o-Xylene                                   |        | <0.020    | <0.020  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Styrene                                    |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Tetrachloroethylene                        |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Toluene                                    |        | <0.080    | <0.080  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| trans-1,2-Dichloroethyle                   | ene    | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| trans-1,3-Dichloroprope                    | ene    | <0.030    | <0.030  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Trichloroethylene                          |        | <0.010    | <0.010  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Trichlorofluoromethane                     |        | <0.050    | <0.050  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| Vinyl chloride                             |        | <0.020    | <0.020  | RPD-NA    | ug/g  | N/A          | 40     | 04-SEP-19 |
| WG3148016-2 LCS<br>1,1,1,2-Tetrachloroetha | ne     |           | 96.4    |           | %     |              | 60-130 | 04-SEP-19 |
| 1,1,2,2-Tetrachloroetha                    |        |           | 97.6    |           | %     |              | 60-130 | 04-SEP-19 |
| 1,1,1-Trichloroethane                      |        |           | 87.5    |           | %     |              | 60-130 | 04-SEP-19 |
| 1,1,2-Trichloroethane                      |        |           | 100.6   |           | %     |              | 60-130 | 04-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                  | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------|--------|-----------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                         | Soil   |           |        |           |       |     |        |           |
| Batch R4782458                        |        |           |        |           |       |     |        |           |
| WG3148016-2 LCS<br>1,1-Dichloroethane |        |           | 87.0   |           | %     |     | 60-130 | 04-SEP-19 |
| 1,1-Dichloroethylene                  |        |           | 76.9   |           | %     |     | 60-130 | 04-SEP-19 |
| 1,2-Dibromoethane                     |        |           | 98.6   |           | %     |     | 70-130 | 04-SEP-19 |
| 1,2-Dichlorobenzene                   |        |           | 100.1  |           | %     |     | 70-130 | 04-SEP-19 |
| 1,2-Dichloroethane                    |        |           | 91.6   |           | %     |     | 60-130 | 04-SEP-19 |
| 1,2-Dichloropropane                   |        |           | 95.6   |           | %     |     | 70-130 | 04-SEP-19 |
| 1,3-Dichlorobenzene                   |        |           | 98.5   |           | %     |     | 70-130 | 04-SEP-19 |
| 1,4-Dichlorobenzene                   |        |           | 99.7   |           | %     |     | 70-130 | 04-SEP-19 |
| Acetone                               |        |           | 94.1   |           | %     |     | 60-140 | 04-SEP-19 |
| Benzene                               |        |           | 97.1   |           | %     |     | 70-130 | 04-SEP-19 |
| Bromodichloromethane                  |        |           | 93.0   |           | %     |     | 50-140 | 04-SEP-19 |
| Bromoform                             |        |           | 98.5   |           | %     |     | 70-130 | 04-SEP-19 |
| Bromomethane                          |        |           | 78.3   |           | %     |     | 50-140 | 04-SEP-19 |
| Carbon tetrachloride                  |        |           | 87.9   |           | %     |     | 70-130 | 04-SEP-19 |
| Chlorobenzene                         |        |           | 95.1   |           | %     |     | 70-130 | 04-SEP-19 |
| Chloroform                            |        |           | 95.5   |           | %     |     | 70-130 | 04-SEP-19 |
| cis-1,2-Dichloroethylene              | e      |           | 97.0   |           | %     |     | 70-130 | 04-SEP-19 |
| cis-1,3-Dichloropropene               | )      |           | 97.5   |           | %     |     | 70-130 | 04-SEP-19 |
| Dibromochloromethane                  |        |           | 94.4   |           | %     |     | 60-130 | 04-SEP-19 |
| Dichlorodifluoromethane               | е      |           | 51.1   |           | %     |     | 50-140 | 04-SEP-19 |
| Ethylbenzene                          |        |           | 88.4   |           | %     |     | 70-130 | 04-SEP-19 |
| n-Hexane                              |        |           | 66.6   | LCS-L     | %     |     | 70-130 | 04-SEP-19 |
| Methylene Chloride                    |        |           | 96.0   |           | %     |     | 70-130 | 04-SEP-19 |
| MTBE                                  |        |           | 97.0   |           | %     |     | 70-130 | 04-SEP-19 |
| m+p-Xylenes                           |        |           | 87.0   |           | %     |     | 70-130 | 04-SEP-19 |
| Methyl Ethyl Ketone                   |        |           | 100.7  |           | %     |     | 60-140 | 04-SEP-19 |
| Methyl Isobutyl Ketone                |        |           | 87.8   |           | %     |     | 60-140 | 04-SEP-19 |
| o-Xylene                              |        |           | 88.4   |           | %     |     | 70-130 | 04-SEP-19 |
| Styrene                               |        |           | 89.1   |           | %     |     | 70-130 | 04-SEP-19 |
| Tetrachloroethylene                   |        |           | 93.3   |           | %     |     | 60-130 | 04-SEP-19 |
| Toluene                               |        |           | 91.5   |           | %     |     | 70-130 | 04-SEP-19 |
| trans-1,2-Dichloroethyle              | ene    |           | 82.2   |           | %     |     | 60-130 | 04-SEP-19 |
| trans-1,3-Dichloroprope               | ne     |           | 88.4   |           | %     |     | 70-130 | 04-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Solidaria   Salidaria   Sali | Test                    | Matrix | Reference | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------|-----------|---------|-----------|-------|-----|--------|-----------|
| WG3148016-2         LCS           Trichiorodhylene         98.2         %         60-130         04-SEP-19           Trichiorodhycmethane         77.8         %         50-140         04-SEP-19           Vinyl chloride         80.0         %         60-140         04-SEP-19           WG3148016-1         MB         1.1.1.2-Erachioroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | VOC-511-HS-WT           | Soil   |           |         |           |       |     |        |           |
| Trichloroethylene         98.2         %         60.130         04-SEP-19           Trichlorofluoromethane         77.8         %         50.140         04-SEP-19           Vinyl chloride         80.0         %         50.140         04-SEP-19           WG3148016-1         MB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Batch R4782458          | 3      |           |         |           |       |     |        |           |
| Trichlorofluoromethane         77.8         %         50.140         04-SEP-19           Vinyl chloride         80.0         %         60.140         04-SEP-19           WG3148016-1         MB         MB           1.1.1.2-Tertarchloroethane         <0.050         ug/g         0.05         04-SEP-19           1.1.1.2-Tertarchloroethane         <0.050         ug/g         0.05         04-SEP-19           1.1.1-Trichloroethane         <0.050         ug/g         0.05         04-SEP-19           1.1.1-Dichloroethane         <0.050         ug/g         0.05         04-SEP-19           1.1-Dichloroethylene         <0.050         ug/g         0.05         04-SEP-19           1.2-Dichloroethylene         <0.050         ug/g         0.05         04-SEP-19           1.2-Dichloroethylene         <0.050         ug/g         0.05         04-SEP-19           1.2-Dichloroethane         <0.050         ug/g         0.05         04-SEP-19<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         |        |           | 00.0    |           | 0/    |     | 00.400 |           |
| Vinyl chloride         80.0         %         60.140         04-SEP-19           WGS148016-1         MB         1.1.1.2-Tetrachloroethane         <0.050         ug/g         0.05         04-SEP-19           1.1.1.2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -                       |        |           |         |           |       |     |        |           |
| WG3148016-1 MB         1,1,1,2-Tetrachloroethane         <0.050         ug/g         0.05         04-SEP-19           1,1,2,2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         | ;      |           |         |           |       |     |        |           |
| 1,1,1,2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ·                       |        |           | 60.0    |           | 70    |     | 60-140 | 04-SEP-19 |
| 1,1,2,2-Tetrachloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                         | ane    |           | <0.050  |           | ug/g  |     | 0.05   | 04-SFP-19 |
| 1,1,1-Trichloroethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,1,2,2-Tetrachloroetha | ane    |           |         |           |       |     |        |           |
| 1,1,2-Trichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |        |           |         |           |       |     |        |           |
| 1,1-Dichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         |        |           | <0.050  |           |       |     | 0.05   |           |
| 1,1-Dichloroethylene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1,1-Dichloroethane      |        |           |         |           |       |     | 0.05   |           |
| 1,2-Dibromoethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,1-Dichloroethylene    |        |           |         |           |       |     | 0.05   |           |
| 1,2-Dichlorobenzene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,2-Dibromoethane       |        |           | <0.050  |           |       |     | 0.05   |           |
| 1,2-Dichloroethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,2-Dichlorobenzene     |        |           | <0.050  |           |       |     | 0.05   |           |
| 1,3-Dichlorobenzene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,2-Dichloroethane      |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,4-Dichlorobenzene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,2-Dichloropropane     |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Acetone         <0.50         ug/g         0.5         04-SEP-19           Benzene         <0.0068                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1,3-Dichlorobenzene     |        |           | < 0.050 |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Benzene         <0.0068         ug/g         0.0068         04-SEP-19           Bromodichloromethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,4-Dichlorobenzene     |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Bromodichloromethane         <0.050         ug/g         0.05         04-SEP-19           Bromoform         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Acetone                 |        |           | <0.50   |           | ug/g  |     | 0.5    | 04-SEP-19 |
| Bromoform         <0.050         ug/g         0.05         04-SEP-19           Bromomethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Benzene                 |        |           | <0.0068 |           | ug/g  |     | 0.0068 | 04-SEP-19 |
| Bromomethane         <0.050         ug/g         0.05         04-SEP-19           Carbon tetrachloride         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Bromodichloromethane    | )      |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Carbon tetrachloride         <0.050         ug/g         0.05         04-SEP-19           Chlorobenzene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Bromoform               |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Chlorobenzene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Bromomethane            |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Chloroform         <0.050         ug/g         0.05         04-SEP-19           cis-1,2-Dichloroethylene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Carbon tetrachloride    |        |           | < 0.050 |           | ug/g  |     | 0.05   | 04-SEP-19 |
| cis-1,2-Dichloroethylene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Chlorobenzene           |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| cis-1,3-Dichloropropene       <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Chloroform              |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Dibromochloromethane       <0.050       ug/g       0.05       04-SEP-19         Dichlorodifluoromethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | cis-1,2-Dichloroethylen | е      |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Dichlorodifluoromethane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | cis-1,3-Dichloropropen  | е      |           | <0.030  |           | ug/g  |     | 0.03   | 04-SEP-19 |
| Ethylbenzene       <0.018                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Dibromochloromethane    | Э      |           | < 0.050 |           | ug/g  |     | 0.05   | 04-SEP-19 |
| n-Hexane       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Dichlorodifluoromethan  | ie     |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Methylene Chloride       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ethylbenzene            |        |           | <0.018  |           | ug/g  |     | 0.018  | 04-SEP-19 |
| MTBE <0.050 ug/g 0.05 04-SEP-19 m+p-Xylenes <0.030 ug/g 0.03 04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | n-Hexane                |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| m+p-Xylenes <0.030 ug/g 0.03 04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Methylene Chloride      |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | MTBE                    |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Methyl Ethyl Ketone <0.50 ug/g 0.5 04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | m+p-Xylenes             |        |           | <0.030  |           | ug/g  |     | 0.03   | 04-SEP-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Methyl Ethyl Ketone     |        |           | <0.50   |           | ug/g  |     | 0.5    | 04-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Test N                    | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| Wat Hyll Isobuty Ketone         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | VOC-511-HS-WT             | Soil   |            |        |           |       |     |        |           |
| Methyl labutyl Ketone         <0.50         ug/g         0.5         0.4 SEP-19           o-Xylene         <0.020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Batch R4782458            |        |            |        |           |       |     |        |           |
| o-Xylene         <0.020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |        |            | 0.50   |           |       |     | 0.5    |           |
| Styrene         <0.050         ug/g         0.05         04-SEP-19           Tetachloroethylene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                           |        |            |        |           |       |     |        |           |
| Tetrachloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | •                         |        |            |        |           |       |     |        |           |
| Toluene         <0.080         ug/g         0.08         04-SEP-19           trans-1,2-Dichloroprephe         <0.050         ug/g         0.05         04-SEP-19           trans-1,3-Dichloroprephe         <0.030         ug/g         0.03         04-SEP-19           Trichloroethylene         <0.010         ug/g         0.05         04-SEP-19           Trichlorofluoromethane         <0.050         ug/g         0.02         04-SEP-19           Vinyl chloride         <0.020         ug/g         0.02         04-SEP-19           Surrogate: 1,4-Difluorobenzene         111.0         %         50-140         04-SEP-19           Surrogate: 4,4-Difluorobenzene         95.0         %         50-140         04-SEP-19           WG3148016-5         MS         L2336024-4         1         1         2         50-140         04-SEP-19           WG3148016-5         MS         L2336024-4         1         1         1         2         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0                                         | •                         |        |            |        |           |       |     |        |           |
| trans-1,2-Dichloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | -                         |        |            |        |           |       |     |        |           |
| trans-1,3-Dichloropropene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |        |            |        |           |       |     |        |           |
| Trichloroethylene         <0.010         ug/g         0.01         04-SEP-19           Trichlorofluoromethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | •                         |        |            |        |           |       |     |        |           |
| Trichloroffluoromethane         <0.0550         ug/g         0.05         04-SEP-19           Vinyl chloride         <0.020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |        |            |        |           |       |     |        |           |
| Vinyl chloride         <0.020         ug/g         0.02         04-SEP-19           Surrogate: 1,4-Difluorobenzene         111.0         %         50-140         04-SEP-19           Surrogate: 4-Bromofluorobenzene         95.0         %         50-140         04-SEP-19           WG3148016-5         MS         L236024-4         ****         ****         ****           1.1,12-Tertachloroethane         101.7         %         50-140         04-SEP-19           1.1,12-Trichloroethane         92.0         %         50-140         04-SEP-19           1.1,1-Trichloroethane         94.5         %         50-140         04-SEP-19           1.1,2-Trichloroethane         97.5         %         50-140         04-SEP-19           1,1-Dichloroethane         90.4         %         50-140         04-SEP-19           1,1-Dichloroethane         83.0         %         50-140         04-SEP-19           1,2-Dibromoethane         92.7         %         50-140         04-SEP-19           1,2-Dichlorobenzene         104.0         %         50-140         04-SEP-19           1,2-Dichlorobenzene         96.0         %         50-140         04-SEP-19           1,2-Dichlorobenzene         96.0              | •                         |        |            |        |           |       |     |        |           |
| Surrogate: 1,4-Difluorobenzene         111.0         %         50-140         04-SEP-19           Surrogate: 4-Bromofluorobenzene         95.0         %         50-140         04-SEP-19           WG3148016-5 MS         L2336024-4         1.1,1,2-Tetrachloroethane         101.7         %         50-140         04-SEP-19           1,1,2-Tetrachloroethane         92.0         %         50-140         04-SEP-19           1,1,1-Trichloroethane         94.5         %         50-140         04-SEP-19           1,1,2-Trichloroethane         97.5         %         50-140         04-SEP-19           1,1-Dichloroethane         90.4         %         50-140         04-SEP-19           1,1-Dichloroethylene         83.0         %         50-140         04-SEP-19           1,2-Dibromoethane         92.7         %         50-140         04-SEP-19           1,2-Dichloroethane         96.0         %         50-140         04-SEP-19           1,2-Dichloroptopane         96.0         %         50-140         04-SEP-19           1,3-Dichlorobenzene         104.4         %         50-140         04-SEP-19           1,4-Dichlorobenzene         104.8         %         50-140         04-SEP-19           2 |                           |        |            |        |           |       |     |        |           |
| Surrogate: 4-Bromofluorobenzene         95.0         %         50-140         04-SEP-19           WG3148016-5 MS         L2336024-4         1.1,1,2-Tetrachloroethane         101.7         %         50-140         04-SEP-19           1,1,2-Tetrachloroethane         92.0         %         50-140         04-SEP-19           1,1,1-Trichloroethane         94.5         %         50-140         04-SEP-19           1,1,2-Trichloroethane         97.5         %         50-140         04-SEP-19           1,1-Dichloroethane         90.4         %         50-140         04-SEP-19           1,1-Dichloroethylene         83.0         %         50-140         04-SEP-19           1,2-Dibromoethane         92.7         %         50-140         04-SEP-19           1,2-Dichlorobenzene         104.0         %         50-140         04-SEP-19           1,2-Dichlorobenzene         104.0         %         50-140         04-SEP-19           1,2-Dichlorobenzene         104.0         %         50-140         04-SEP-19           1,2-Dichlorobenzene         104.4         %         50-140         04-SEP-19           1,2-Dichlorobenzene         104.4         %         50-140         04-SEP-19           1,3-Dichl | •                         |        |            |        |           |       |     |        |           |
| WG3148016-5         MS         L2336024-4           1,1,1,2-Tetrachloroethane         101.7         %         50-140         04-SEP-19           1,1,2-Tetrachloroethane         92.0         %         50-140         04-SEP-19           1,1,1-Trichloroethane         94.5         %         50-140         04-SEP-19           1,1,2-Trichloroethane         97.5         %         50-140         04-SEP-19           1,1-Dichloroethane         90.4         %         50-140         04-SEP-19           1,1-Dichloroethylene         83.0         %         50-140         04-SEP-19           1,2-Dibromoethane         92.7         %         50-140         04-SEP-19           1,2-Dichlorobenzene         104.0         %         50-140         04-SEP-19           1,2-Dichloroethane         86.0         %         50-140         04-SEP-19           1,2-Dichloroethane         86.0         %         50-140         04-SEP-19           1,2-Dichlorobenzene         104.4         %         50-140         04-SEP-19           1,3-Dichlorobenzene         104.4         %         50-140         04-SEP-19           1,4-Dichlorobenzene         104.8         %         50-140         04-SEP-19                          | •                         |        |            |        |           |       |     |        | 04-SEP-19 |
| 1,1,1,2-Tetrachloroethane       101.7       %       50-140       04-SEP-19         1,1,2,2-Tetrachloroethane       92.0       %       50-140       04-SEP-19         1,1,1-Trichloroethane       94.5       %       50-140       04-SEP-19         1,1,2-Trichloroethane       97.5       %       50-140       04-SEP-19         1,1-Dichloroethane       90.4       %       50-140       04-SEP-19         1,1-Dichloroethylene       83.0       %       50-140       04-SEP-19         1,2-Dibromoethane       92.7       %       50-140       04-SEP-19         1,2-Dichlorobenzene       104.0       %       50-140       04-SEP-19         1,2-Dichloroethane       86.0       %       50-140       04-SEP-19         1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,2-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.8       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140                                                                                          | Surrogate: 4-Bromofluorob | enzene |            | 95.0   |           | %     |     | 50-140 | 04-SEP-19 |
| 1,1,2,2-Tetrachloroethane       92.0       %       50-140       04-SEP-19         1,1,1-Trichloroethane       94.5       %       50-140       04-SEP-19         1,1,2-Trichloroethane       97.5       %       50-140       04-SEP-19         1,1-Dichloroethane       90.4       %       50-140       04-SEP-19         1,1-Dichloroethylene       83.0       %       50-140       04-SEP-19         1,2-Dibromoethane       92.7       %       50-140       04-SEP-19         1,2-Dichlorobenzene       104.0       %       50-140       04-SEP-19         1,2-Dichloroethane       86.0       %       50-140       04-SEP-19         1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-1                                                                                         |                           |        | L2336024-4 | 101.7  |           | 0/    |     | 50.440 | 04.055.40 |
| 1,1,1-Trichloroethane       94.5       %       50-140       04-SEP-19         1,1,2-Trichloroethane       97.5       %       50-140       04-SEP-19         1,1-Dichloroethane       90.4       %       50-140       04-SEP-19         1,1-Dichloroethylene       83.0       %       50-140       04-SEP-19         1,2-Dichloroethane       92.7       %       50-140       04-SEP-19         1,2-Dichlorobenzene       104.0       %       50-140       04-SEP-19         1,2-Dichloroethane       86.0       %       50-140       04-SEP-19         1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19                                                                                               |                           |        |            |        |           |       |     |        |           |
| 1,1,2-Trichloroethane       97.5       %       50-140       04-SEP-19         1,1-Dichloroethane       90.4       %       50-140       04-SEP-19         1,1-Dichloroethylene       83.0       %       50-140       04-SEP-19         1,2-Dibromoethane       92.7       %       50-140       04-SEP-19         1,2-Dichlorobenzene       104.0       %       50-140       04-SEP-19         1,2-Dichloroethane       86.0       %       50-140       04-SEP-19         1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>      |                           |        |            |        |           |       |     |        |           |
| 1,1-Dichloroethane       90.4       %       50-140       04-SEP-19         1,1-Dichloroethylene       83.0       %       50-140       04-SEP-19         1,2-Dibromoethane       92.7       %       50-140       04-SEP-19         1,2-Dichlorobenzene       104.0       %       50-140       04-SEP-19         1,2-Dichloroethane       86.0       %       50-140       04-SEP-19         1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                   |                           |        |            |        |           |       |     |        |           |
| 1,1-Dichloroethylene       83.0       %       50-140       04-SEP-19         1,2-Dibromoethane       92.7       %       50-140       04-SEP-19         1,2-Dichlorobenzene       104.0       %       50-140       04-SEP-19         1,2-Dichloroethane       86.0       %       50-140       04-SEP-19         1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                               |                           |        |            |        |           |       |     |        |           |
| 1,2-Dibromoethane       92.7       %       50-140       04-SEP-19         1,2-Dichlorobenzene       104.0       %       50-140       04-SEP-19         1,2-Dichloroethane       86.0       %       50-140       04-SEP-19         1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                      | ·                         |        |            |        |           |       |     |        |           |
| 1,2-Dichlorobenzene       104.0       %       50-140       04-SEP-19         1,2-Dichloroethane       86.0       %       50-140       04-SEP-19         1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                      | ·                         |        |            |        |           |       |     |        |           |
| 1,2-Dichloroethane       86.0       %       50-140       04-SEP-19         1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                             | ·                         |        |            |        |           |       |     |        |           |
| 1,2-Dichloropropane       96.0       %       50-140       04-SEP-19         1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                        | •                         |        |            |        |           |       |     |        |           |
| 1,3-Dichlorobenzene       104.4       %       50-140       04-SEP-19         1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ·                         |        |            |        |           |       |     |        |           |
| 1,4-Dichlorobenzene       104.8       %       50-140       04-SEP-19         Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | • •                       |        |            |        |           |       |     |        |           |
| Acetone       81.9       %       50-140       04-SEP-19         Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ,                         |        |            |        |           |       |     |        |           |
| Benzene       100.5       %       50-140       04-SEP-19         Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |        |            |        |           |       |     |        |           |
| Bromodichloromethane       92.3       %       50-140       04-SEP-19         Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |        |            |        |           |       |     |        |           |
| Bromoform       93.4       %       50-140       04-SEP-19         Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |        |            |        |           |       |     |        |           |
| Bromomethane       77.3       %       50-140       04-SEP-19         Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |        |            |        |           |       |     |        |           |
| Carbon tetrachloride       96.2       %       50-140       04-SEP-19         Chlorobenzene       99.2       %       50-140       04-SEP-19         Chloroform       98.4       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                           |        |            |        |           |       |     |        |           |
| Chlorobenzene         99.2         %         50-140         04-SEP-19           Chloroform         98.4         %         50-140         04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |        |            |        |           |       |     |        |           |
| Chloroform 98.4 % 50-140 04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |        |            |        |           |       |     | 50-140 |           |
| 30.13                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |        |            |        |           |       |     | 50-140 | 04-SEP-19 |
| cis-1,2-Dichloroethylene 99.0 % 50-140 04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                           |        |            |        |           |       |     | 50-140 |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | cis-1,2-Dichloroethylene  |        |            | 99.0   |           | %     |     | 50-140 | 04-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                                        | Matrix | Reference                   | Result          | Qualifier | Units | RPD  | Limit  | Analyzed  |
|---------------------------------------------|--------|-----------------------------|-----------------|-----------|-------|------|--------|-----------|
| VOC-511-HS-WT                               | Soil   |                             |                 |           |       |      |        |           |
| Batch R4782458                              |        |                             |                 |           |       |      |        |           |
| WG3148016-5 MS                              |        | L2336024-4                  | 07.4            |           | 0/    |      |        |           |
| cis-1,3-Dichloropropene                     |        |                             | 87.1            |           | %     |      | 50-140 | 04-SEP-19 |
| Dibromochloromethane                        |        |                             | 92.6            |           | %     |      | 50-140 | 04-SEP-19 |
| Dichlorodifluoromethane                     | 9      |                             | 59.0            |           | %     |      | 50-140 | 04-SEP-19 |
| Ethylbenzene                                |        |                             | 96.2            |           | %     |      | 50-140 | 04-SEP-19 |
| n-Hexane                                    |        |                             | 72.8            |           | %     |      | 50-140 | 04-SEP-19 |
| Methylene Chloride                          |        |                             | 93.8            |           | %     |      | 50-140 | 04-SEP-19 |
| MTBE                                        |        |                             | 100.6           |           | %     |      | 50-140 | 04-SEP-19 |
| m+p-Xylenes                                 |        |                             | 94.0            |           | %     |      | 50-140 | 04-SEP-19 |
| Methyl Ethyl Ketone                         |        |                             | 80.0            |           | %     |      | 50-140 | 04-SEP-19 |
| Methyl Isobutyl Ketone                      |        |                             | 75.3            |           | %     |      | 50-140 | 04-SEP-19 |
| o-Xylene                                    |        |                             | 94.9            |           | %     |      | 50-140 | 04-SEP-19 |
| Styrene                                     |        |                             | 92.6            |           | %     |      | 50-140 | 04-SEP-19 |
| Tetrachloroethylene                         |        |                             | 102.6           |           | %     |      | 50-140 | 04-SEP-19 |
| Toluene                                     |        |                             | 98.6            |           | %     |      | 50-140 | 04-SEP-19 |
| trans-1,2-Dichloroethyle                    |        |                             | 85.5            |           | %     |      | 50-140 | 04-SEP-19 |
| trans-1,3-Dichloroprope                     | ne     |                             | 77.3            |           | %     |      | 50-140 | 04-SEP-19 |
| Trichloroethylene                           |        |                             | 104.1           |           | %     |      | 50-140 | 04-SEP-19 |
| Trichlorofluoromethane                      |        |                             | 86.2            |           | %     |      | 50-140 | 04-SEP-19 |
| Vinyl chloride                              |        |                             | 86.3            |           | %     |      | 50-140 | 04-SEP-19 |
| Batch R4782647                              |        |                             |                 |           |       |      |        |           |
| WG3150058-4 DUP<br>1,1,1,2-Tetrachloroethai |        | <b>WG3150058-</b><br><0.050 | <b>3</b> <0.050 | 555 114   | /a    | N1/A | 40     | 04.055.40 |
|                                             |        |                             |                 | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,1,2,2-Tetrachloroetha                     | ie     | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,1,1-Trichloroethane                       |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,1,2-Trichloroethane                       |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,1-Dichloroethane                          |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,1-Dichloroethylene                        |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,2-Dibromoethane                           |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,2-Dichlorobenzene                         |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,2-Dichloroethane                          |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,2-Dichloropropane                         |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,3-Dichlorobenzene                         |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |
| 1,4-Dichlorobenzene                         |        | <0.050                      | <0.050          | RPD-NA    | ug/g  | N/A  | 40     | 04-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

| Test                      | Matrix | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------|--------|-------------|---------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT             | Soil   |             |         |           |       |     |        |           |
| Batch R4782647            |        |             |         |           |       |     |        |           |
| WG3150058-4 DUP           |        | WG3150058-3 |         |           | ,     |     |        |           |
| Acetone                   |        | <0.50       | <0.50   | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Benzene                   |        | <0.0068     | <0.0068 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Bromodichloromethane      |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Bromoform                 |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Bromomethane              |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Carbon tetrachloride      |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Chlorobenzene             |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Chloroform                |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| cis-1,2-Dichloroethylene  |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| cis-1,3-Dichloropropene   |        | < 0.030     | < 0.030 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Dibromochloromethane      |        | < 0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Dichlorodifluoromethane   |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Ethylbenzene              |        | <0.018      | <0.018  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| n-Hexane                  |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Methylene Chloride        |        | < 0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| MTBE                      |        | < 0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| m+p-Xylenes               |        | < 0.030     | < 0.030 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Methyl Ethyl Ketone       |        | <0.50       | < 0.50  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Methyl Isobutyl Ketone    |        | <0.50       | <0.50   | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| o-Xylene                  |        | <0.020      | <0.020  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Styrene                   |        | < 0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Tetrachloroethylene       |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Toluene                   |        | <0.080      | <0.080  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| trans-1,2-Dichloroethyler | ne     | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| trans-1,3-Dichloropropen  | е      | < 0.030     | < 0.030 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Trichloroethylene         |        | <0.010      | <0.010  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Trichlorofluoromethane    |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| Vinyl chloride            |        | <0.020      | <0.020  | RPD-NA    | ug/g  | N/A | 40     | 04-SEP-19 |
| WG3150058-2 LCS           | e      |             | 102.8   |           | %     |     | 60-130 | 04-SEP-19 |
| 1,1,2,2-Tetrachloroethan  |        |             | 92.4    |           | %     |     | 60-130 | 04-SEP-19 |
| 1,1,1-Trichloroethane     | •      |             | 105.7   |           | %     |     |        |           |
| 1,1,2-Trichloroethane     |        |             | 96.2    |           | %     |     | 60-130 | 04-SEP-19 |
| 1,1,2-THORIDIOEUTANE      |        |             | 30.∠    |           | 70    |     | 60-130 | 04-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                     | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------|--------|-----------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT            | Soil   |           |        |           |       |     |        |           |
| Batch R4782647           |        |           |        |           |       |     |        |           |
| WG3150058-2 LCS          |        |           | 00.5   |           | 0/    |     |        |           |
| 1,1-Dichloroethane       |        |           | 90.5   |           | %     |     | 60-130 | 04-SEP-19 |
| 1,1-Dichloroethylene     |        |           | 87.6   |           | %     |     | 60-130 | 04-SEP-19 |
| 1,2-Dibromoethane        |        |           | 93.6   |           | %     |     | 70-130 | 04-SEP-19 |
| 1,2-Dichlorobenzene      |        |           | 105.3  |           | %     |     | 70-130 | 04-SEP-19 |
| 1,2-Dichloroethane       |        |           | 94.7   |           | %     |     | 60-130 | 04-SEP-19 |
| 1,2-Dichloropropane      |        |           | 98.7   |           | %     |     | 70-130 | 04-SEP-19 |
| 1,3-Dichlorobenzene      |        |           | 105.6  |           | %     |     | 70-130 | 04-SEP-19 |
| 1,4-Dichlorobenzene      |        |           | 108.6  |           | %     |     | 70-130 | 04-SEP-19 |
| Acetone                  |        |           | 80.0   |           | %     |     | 60-140 | 04-SEP-19 |
| Benzene                  |        |           | 104.5  |           | %     |     | 70-130 | 04-SEP-19 |
| Bromodichloromethane     |        |           | 105.8  |           | %     |     | 50-140 | 04-SEP-19 |
| Bromoform                |        |           | 105.8  |           | %     |     | 70-130 | 04-SEP-19 |
| Bromomethane             |        |           | 80.7   |           | %     |     | 50-140 | 04-SEP-19 |
| Carbon tetrachloride     |        |           | 109.1  |           | %     |     | 70-130 | 04-SEP-19 |
| Chlorobenzene            |        |           | 105.5  |           | %     |     | 70-130 | 04-SEP-19 |
| Chloroform               |        |           | 105.2  |           | %     |     | 70-130 | 04-SEP-19 |
| cis-1,2-Dichloroethylene | Э      |           | 101.0  |           | %     |     | 70-130 | 04-SEP-19 |
| cis-1,3-Dichloropropene  | e      |           | 103.7  |           | %     |     | 70-130 | 04-SEP-19 |
| Dibromochloromethane     | •      |           | 98.0   |           | %     |     | 60-130 | 04-SEP-19 |
| Dichlorodifluoromethan   | е      |           | 60.5   |           | %     |     | 50-140 | 04-SEP-19 |
| Ethylbenzene             |        |           | 95.2   |           | %     |     | 70-130 | 04-SEP-19 |
| n-Hexane                 |        |           | 68.3   | LCS-L     | %     |     | 70-130 | 04-SEP-19 |
| Methylene Chloride       |        |           | 97.1   |           | %     |     | 70-130 | 04-SEP-19 |
| MTBE                     |        |           | 104.6  |           | %     |     | 70-130 | 04-SEP-19 |
| m+p-Xylenes              |        |           | 98.5   |           | %     |     | 70-130 | 04-SEP-19 |
| Methyl Ethyl Ketone      |        |           | 82.6   |           | %     |     | 60-140 | 04-SEP-19 |
| Methyl Isobutyl Ketone   |        |           | 79.1   |           | %     |     | 60-140 | 04-SEP-19 |
| o-Xylene                 |        |           | 95.3   |           | %     |     | 70-130 | 04-SEP-19 |
| Styrene                  |        |           | 100.5  |           | %     |     | 70-130 | 04-SEP-19 |
| Tetrachloroethylene      |        |           | 106.1  |           | %     |     | 60-130 | 04-SEP-19 |
| Toluene                  |        |           | 97.7   |           | %     |     | 70-130 | 04-SEP-19 |
| trans-1,2-Dichloroethyle | ene    |           | 91.6   |           | %     |     | 60-130 | 04-SEP-19 |
| trans-1,3-Dichloroprope  | ene    |           | 92.4   |           | %     |     | 70-130 |           |
| trans-1,3-Dichloroprope  | ene    |           | 92.4   |           | %     |     | 70-130 | 04-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                     | Matrix | Reference | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------------------------|--------|-----------|---------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                            | Soil   |           |         |           |       |     |        |           |
| Batch R478264                            | 17     |           |         |           |       |     |        |           |
| WG3150058-2 LCS                          | ;      |           | 440.0   |           | 0/    |     |        |           |
| Trichloroethylene                        | _      |           | 113.6   |           | %     |     | 60-130 | 04-SEP-19 |
| Trichlorofluoromethan                    | ie     |           | 95.3    |           | %     |     | 50-140 | 04-SEP-19 |
| Vinyl chloride                           |        |           | 85.8    |           | %     |     | 60-140 | 04-SEP-19 |
| WG3150058-1 MB<br>1,1,1,2-Tetrachloroeth | nane   |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,1,2,2-Tetrachloroeth                   | nane   |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,1,1-Trichloroethane                    |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,1,2-Trichloroethane                    |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,1-Dichloroethane                       |        |           | < 0.050 |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,1-Dichloroethylene                     |        |           | < 0.050 |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,2-Dibromoethane                        |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,2-Dichlorobenzene                      |        |           | < 0.050 |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,2-Dichloroethane                       |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,2-Dichloropropane                      |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,3-Dichlorobenzene                      |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| 1,4-Dichlorobenzene                      |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Acetone                                  |        |           | <0.50   |           | ug/g  |     | 0.5    | 04-SEP-19 |
| Benzene                                  |        |           | <0.0068 |           | ug/g  |     | 0.0068 | 04-SEP-19 |
| Bromodichloromethar                      | ne     |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Bromoform                                |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Bromomethane                             |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Carbon tetrachloride                     |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Chlorobenzene                            |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Chloroform                               |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| cis-1,2-Dichloroethyle                   | ne     |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| cis-1,3-Dichloroprope                    | ne     |           | <0.030  |           | ug/g  |     | 0.03   | 04-SEP-19 |
| Dibromochloromethar                      | ne     |           | < 0.050 |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Dichlorodifluorometha                    | ne     |           | < 0.050 |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Ethylbenzene                             |        |           | <0.018  |           | ug/g  |     | 0.018  | 04-SEP-19 |
| n-Hexane                                 |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| Methylene Chloride                       |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| MTBE                                     |        |           | <0.050  |           | ug/g  |     | 0.05   | 04-SEP-19 |
| m+p-Xylenes                              |        |           | <0.030  |           | ug/g  |     | 0.03   | 04-SEP-19 |
| Methyl Ethyl Ketone                      |        |           | <0.50   |           | ug/g  |     | 0.5    | 04-SEP-19 |
|                                          |        |           |         |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No.   No. | Test                     | Matrix    | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------|------------|--------|-----------|-------|-----|--------|-----------|
| Wordstoods-1 ME         Methyl Isobutyl Ketone         <0.50         ug/g         0.5         04-SEP-19           o-Xylene         <0.020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | VOC-511-HS-WT            | Soil      |            |        |           |       |     |        |           |
| Methyl Isobutyl Ketone         <0.50         ug/g         0.5         04-SEP-19           o-Xylene         <0.020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Batch R4782647           |           |            |        |           |       |     |        |           |
| o-Xylene         <0.020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          |           |            | 0.50   |           |       |     | 0.5    |           |
| Styrene         < 0.050         ug/g         0.05         04-SEP-19           Tetrachloroethylene         < 0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                          |           |            |        |           |       |     |        |           |
| Tetrachloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ,                        |           |            |        |           |       |     |        |           |
| Toluene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | •                        |           |            |        |           |       |     |        |           |
| trans-1,2-Dichloroethylene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | •                        |           |            |        |           |       |     |        |           |
| trans-1,3-Dichloropropene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |           |            |        |           |       |     |        |           |
| Trichloroethylene         <0.010         ug/g         0.01         0.4SEP-19           Trichlorofluoromethane         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                          |           |            |        |           |       |     |        |           |
| Trichlorofluoromethane         <0.050         ug/g         0.05         04-SEP-19           Vinyl chloride         <0.020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          | ene       |            |        |           |       |     |        | 04-SEP-19 |
| Vinyl chloride         <0.020         ug/g         0.02         04-SEP-19           Surrogate: 1,4-Difluorobenzene         121.8         %         50-140         04-SEP-19           Surrogate: 4-Bromofluorobenzene         103.3         %         50-140         04-SEP-19           WG3150058-5         MS         L2336018-3              1,1,2-Tetrachloroethane         105.8         %         50-140         04-SEP-19           1,1,2-Tetrachloroethane         92.3         %         50-140         04-SEP-19           1,1,1-Trichloroethane         110.5         %         50-140         04-SEP-19           1,1,1-Trichloroethane         97.9         %         50-140         04-SEP-19           1,1-Dichloroethane         91.7         %         50-140         04-SEP-19           1,1-Dichloroethane         91.7         %         50-140         04-SEP-19           1,2-Dichlorobenzene         95.8         %         50-140         04-SEP-19           1,2-Dichlorobenzene         108.7         %         50-140         04-SEP-19           1,2-Dichlorobenzene         100.9         %         50-140         04-SEP-19           1,2-Dichlorobenzene         100.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | -                        |           |            |        |           |       |     |        | 04-SEP-19 |
| Surrogate: 1,4-Difluorobenzene         121.8         %         50-140         04-SEP-19           Surrogate: 4-Bromofluorobenzene         103.3         %         50-140         04-SEP-19           WG3150058-5         MS         L2336018-3         ***         ***           1,1,2-Tetrachloroethane         105.8         %         50-140         04-SEP-19           1,1,1-Trichloroethane         92.3         %         50-140         04-SEP-19           1,1,1-Trichloroethane         910.5         %         50-140         04-SEP-19           1,1,1-Trichloroethane         97.9         %         50-140         04-SEP-19           1,1-Dichloroethane         91.7         %         50-140         04-SEP-19           1,2-Dichloroethane         91.2         %         50-140         04-SEP-19           1,2-Dichloroethane         95.8         %         50-140         04-SEP-19           1,2-Dichlorobenzene         108.7         %         50-140         04-SEP-19           1,2-Dichlorobenzene         100.7         %         50-140         04-SEP-19           1,3-Dichloropropane         100.9         %         50-140         04-SEP-19           1,4-Dichlorobenzene         108.2         50-140                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |           |            |        |           |       |     |        | 04-SEP-19 |
| Surrogate: 4-Bromofluorobenzene         103.3         %         50-140         04-SEP-19           WG3150058-5 MS         L2336018-3         1.1,1,2-Tetrachloroethane         105.8         %         50-140         04-SEP-19           1,1,2,2-Tetrachloroethane         92.3         %         50-140         04-SEP-19           1,1,1-Trichloroethane         110.5         %         50-140         04-SEP-19           1,1,2-Trichloroethane         97.9         %         50-140         04-SEP-19           1,1-Dichloroethane         91.7         %         50-140         04-SEP-19           1,1-Dichloroethane         91.2         %         50-140         04-SEP-19           1,2-Dibloromoethane         95.8         %         50-140         04-SEP-19           1,2-Dichlorobenzene         108.7         %         50-140         04-SEP-19           1,2-Dichloroptopane         100.9         %         50-140         04-SEP-19           1,3-Dichlorobenzene         108.2         %         50-140         04-SEP-19           1,4-Dichlorobenzene         110.2         %         50-140         04-SEP-19           Actone         83.9         %         50-140         04-SEP-19           Benzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -                        |           |            | <0.020 |           | ug/g  |     | 0.02   | 04-SEP-19 |
| WG3150058-5 MS         L2336018-3           1,1,1,2-Tetrachloroethane         105.8         %         50.140         04-SEP-19           1,1,2,2-Tetrachloroethane         92.3         %         50.140         04-SEP-19           1,1,1-Trichloroethane         110.5         %         50.140         04-SEP-19           1,1,1-Trichloroethane         97.9         %         50.140         04-SEP-19           1,1-Dichloroethane         91.7         %         50.140         04-SEP-19           1,1-Dichloroethane         91.7         %         50.140         04-SEP-19           1,1-Dichloroethane         91.2         %         50.140         04-SEP-19           1,2-Dibloromoethane         95.8         %         50.140         04-SEP-19           1,2-Dichlorobenzene         108.7         %         50.140         04-SEP-19           1,2-Dichloroethane         97.6         %         50.140         04-SEP-19           1,2-Dichloropenzene         100.9         %         50.140         04-SEP-19           1,3-Dichlorobenzene         108.2         %         50.140         04-SEP-19           1,4-Dichlorobenzene         110.2         %         50.140         04-SEP-19           Be                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Surrogate: 1,4-Difluorok | penzene   |            | 121.8  |           | %     |     | 50-140 | 04-SEP-19 |
| 1,1,1,2-Tetrachloroethane       105.8       %       50-140       04-SEP-19         1,1,2,2-Tetrachloroethane       92.3       %       50-140       04-SEP-19         1,1,1-Trichloroethane       110.5       %       50-140       04-SEP-19         1,1,2-Trichloroethane       97.9       %       50-140       04-SEP-19         1,1-Dichloroethane       91.7       %       50-140       04-SEP-19         1,1-Dichloroethylene       91.2       %       50-140       04-SEP-19         1,2-Dibromoethane       95.8       %       50-140       04-SEP-19         1,2-Dichloroebanzene       108.7       %       50-140       04-SEP-19         1,2-Dichloroethane       97.6       %       50-140       04-SEP-19         1,2-Dichloropropane       100.9       %       50-140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Surrogate: 4-Bromofluo   | robenzene |            | 103.3  |           | %     |     | 50-140 | 04-SEP-19 |
| 1,1,2,2-Tetrachloroethane       92.3       %       50.140       04-SEP-19         1,1,1-Trichloroethane       110.5       %       50.140       04-SEP-19         1,1,2-Trichloroethane       97.9       %       50.140       04-SEP-19         1,1-Dichloroethane       91.7       %       50.140       04-SEP-19         1,1-Dichloroethylene       91.2       %       50.140       04-SEP-19         1,2-Dichloroethane       95.8       %       50.140       04-SEP-19         1,2-Dichlorobenzene       108.7       %       50.140       04-SEP-19         1,2-Dichloroethane       97.6       %       50.140       04-SEP-19         1,2-Dichloropropane       100.9       %       50.140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50.140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50.140       04-SEP-19         Acetone       83.9       %       50.140       04-SEP-19         Benzene       107.6       %       50.140       04-SEP-19         Bromodichloromethane       108.9       %       50.140       04-SEP-19         Bromomethane       82.5       %       50.140       04-S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          | nο        | L2336018-3 | 105.8  |           | %     |     | E0 140 | 04 SED 40 |
| 1,1,1-Trichloroethane       110.5       %       50-140       04-SEP-19         1,1,2-Trichloroethane       97.9       %       50-140       04-SEP-19         1,1-Dichloroethane       91.7       %       50-140       04-SEP-19         1,1-Dichloroethylene       91.2       %       50-140       04-SEP-19         1,2-Dibromoethane       95.8       %       50-140       04-SEP-19         1,2-Dichlorobenzene       108.7       %       50-140       04-SEP-19         1,2-Dichloroethane       97.6       %       50-140       04-SEP-19         1,2-Dichloropropane       100.9       %       50-140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19     <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                          |           |            |        |           |       |     |        |           |
| 1,1,2-Trichloroethane       97.9       %       50-140       04-SEP-19         1,1-Dichloroethane       91.7       %       50-140       04-SEP-19         1,1-Dichloroethylene       91.2       %       50-140       04-SEP-19         1,2-Dibromoethane       95.8       %       50-140       04-SEP-19         1,2-Dichlorobenzene       108.7       %       50-140       04-SEP-19         1,2-Dichloropthane       97.6       %       50-140       04-SEP-19         1,2-Dichloropropane       100.9       %       50-140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |           |            |        |           |       |     |        |           |
| 1,1-Dichloroethane       91.7       %       50-140       04-SEP-19         1,1-Dichloroethylene       91.2       %       50-140       04-SEP-19         1,2-Dichloromoethane       95.8       %       50-140       04-SEP-19         1,2-Dichlorobenzene       108.7       %       50-140       04-SEP-19         1,2-Dichloropthane       97.6       %       50-140       04-SEP-19         1,2-Dichloroppane       100.9       %       50-140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19    <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |           |            |        |           |       |     |        |           |
| 1,1-Dichloroethylene       91.2       %       50-140       04-SEP-19         1,2-Dibromoethane       95.8       %       50-140       04-SEP-19         1,2-Dichlorobenzene       108.7       %       50-140       04-SEP-19         1,2-Dichloroethane       97.6       %       50-140       04-SEP-19         1,2-Dichloropropane       100.9       %       50-140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |           |            |        |           |       |     |        |           |
| 1,2-Dibromoethane       95.8       %       50-140       04-SEP-19         1,2-Dichlorobenzene       108.7       %       50-140       04-SEP-19         1,2-Dichloroethane       97.6       %       50-140       04-SEP-19         1,2-Dichloropropane       100.9       %       50-140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |           |            |        |           |       |     |        |           |
| 1,2-Dichlorobenzene       108.7       %       50-140       04-SEP-19         1,2-Dichloroethane       97.6       %       50-140       04-SEP-19         1,2-Dichloropropane       100.9       %       50-140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | •                        |           |            |        |           |       |     |        |           |
| 1,2-Dichloroethane       97.6       %       50-140       04-SEP-19         1,2-Dichloropropane       100.9       %       50-140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ·                        |           |            |        |           |       |     |        |           |
| 1,2-Dichloropropane       100.9       %       50-140       04-SEP-19         1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | •                        |           |            |        |           |       |     |        |           |
| 1,3-Dichlorobenzene       108.2       %       50-140       04-SEP-19         1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                          |           |            |        |           |       |     |        |           |
| 1,4-Dichlorobenzene       110.2       %       50-140       04-SEP-19         Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |           |            |        |           |       |     |        |           |
| Acetone       83.9       %       50-140       04-SEP-19         Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | •                        |           |            |        |           |       |     |        |           |
| Benzene       107.6       %       50-140       04-SEP-19         Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          |           |            |        |           |       |     |        |           |
| Bromodichloromethane       108.9       %       50-140       04-SEP-19         Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |           |            |        |           |       |     |        |           |
| Bromoform       106.9       %       50-140       04-SEP-19         Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |           |            |        |           |       |     |        |           |
| Bromomethane       82.5       %       50-140       04-SEP-19         Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |           |            |        |           |       |     |        |           |
| Carbon tetrachloride       114.1       %       50-140       04-SEP-19         Chlorobenzene       107.7       %       50-140       04-SEP-19         Chloroform       108.8       %       50-140       04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |           |            |        |           |       |     |        |           |
| Chlorobenzene         107.7         %         50-140         04-SEP-19           Chloroform         108.8         %         50-140         04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                          |           |            |        |           |       |     | 50-140 | 04-SEP-19 |
| Chloroform 108.8 % 50-140 04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                          |           |            |        |           |       |     | 50-140 | 04-SEP-19 |
| 33 1.3 3.02 1.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                          |           |            |        |           |       |     | 50-140 | 04-SEP-19 |
| cis-1,2-Dichloroethylene 103.9 % 50-140 04-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                          |           |            |        |           |       |     | 50-140 | 04-SEP-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | cis-1,2-Dichloroethylene | Э         |            | 103.9  |           | %     |     | 50-140 | 04-SEP-19 |



Workorder: L2336718 Report Date: 18-SEP-19 Page 22 of 23

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                  | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-----------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT         | Soil   |            |        |           |       |     |        |           |
| Batch R478264         | 47     |            |        |           |       |     |        |           |
| WG3150058-5 MS        |        | L2336018-3 |        |           |       |     |        |           |
| cis-1,3-Dichloroprope |        |            | 99.0   |           | %     |     | 50-140 | 04-SEP-19 |
| Dibromochlorometha    | ne     |            | 100.7  |           | %     |     | 50-140 | 04-SEP-19 |
| Dichlorodifluorometha | ane    |            | 71.8   |           | %     |     | 50-140 | 04-SEP-19 |
| Ethylbenzene          |        |            | 96.3   |           | %     |     | 50-140 | 04-SEP-19 |
| n-Hexane              |        |            | 72.8   |           | %     |     | 50-140 | 04-SEP-19 |
| Methylene Chloride    |        |            | 95.4   |           | %     |     | 50-140 | 04-SEP-19 |
| MTBE                  |        |            | 107.0  |           | %     |     | 50-140 | 04-SEP-19 |
| m+p-Xylenes           |        |            | 100.1  |           | %     |     | 50-140 | 04-SEP-19 |
| Methyl Ethyl Ketone   |        |            | 87.0   |           | %     |     | 50-140 | 04-SEP-19 |
| Methyl Isobutyl Keton | ne     |            | 78.1   |           | %     |     | 50-140 | 04-SEP-19 |
| o-Xylene              |        |            | 96.3   |           | %     |     | 50-140 | 04-SEP-19 |
| Styrene               |        |            | 100.2  |           | %     |     | 50-140 | 04-SEP-19 |
| Tetrachloroethylene   |        |            | 107.1  |           | %     |     | 50-140 | 04-SEP-19 |
| Toluene               |        |            | 99.5   |           | %     |     | 50-140 | 04-SEP-19 |
| trans-1,2-Dichloroeth | ylene  |            | 91.8   |           | %     |     | 50-140 | 04-SEP-19 |
| trans-1,3-Dichloropro | pene   |            | 88.3   |           | %     |     | 50-140 | 04-SEP-19 |
| Trichloroethylene     |        |            | 116.1  |           | %     |     | 50-140 | 04-SEP-19 |
| Trichlorofluorometha  | ne     |            | 102.1  |           | %     |     | 50-140 | 04-SEP-19 |
| Vinyl chloride        |        |            | 90.1   |           | %     |     | 50-140 | 04-SEP-19 |
|                       |        |            |        |           |       |     |        |           |

Report Date: 18-SEP-19 Workorder: L2336718

CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Andrew Vermeersch

#### Legend:

ALS Control Limit (Data Quality Objectives)

DUP Duplicate

RPD Relative Percent Difference

N/A Not Available

LCS Laboratory Control Sample Standard Reference Material SRM

MS Matrix Spike

Matrix Spike Duplicate **MSD** 

Average Desorption Efficiency ADE

Method Blank MB

Internal Reference Material IRM CRM Certified Reference Material Continuing Calibration Verification CCV 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-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. |
| MBS       | Surrogate recovery in Method Blank was outside ALS DQO. Moderately low-biased results in the MB do not significantly affect its purpose.                                                                             |
| 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 predetermined data quality objectives to provide confidence in the accuracy of associated test results.

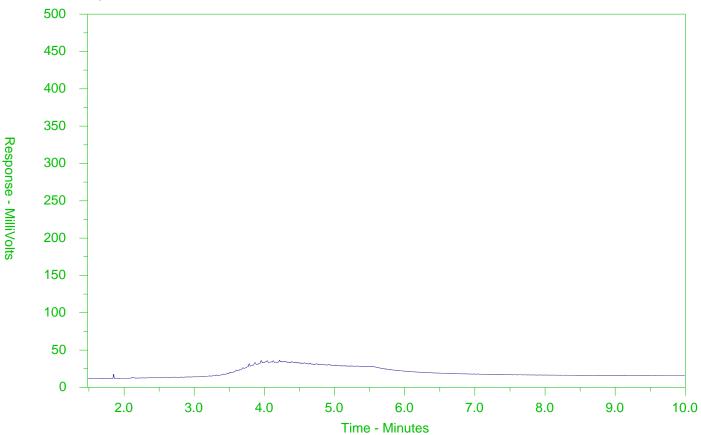
Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

Page 23 of 23

#### CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2336718-1 Client Sample ID: MW102-7.5-9.5



| <b>←</b> -F2- | → ←                                      | —F3—→ <b>←</b> F4— | •      |  |  |  |  |  |
|---------------|------------------------------------------|--------------------|--------|--|--|--|--|--|
| nC10          | nC16                                     | nC34               | nC50   |  |  |  |  |  |
| 174°C         | 287°C                                    | 481°C              | 575°C  |  |  |  |  |  |
| 346°F         | 549°F                                    | 898°F              | 1067°F |  |  |  |  |  |
| Gasolin       | 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.

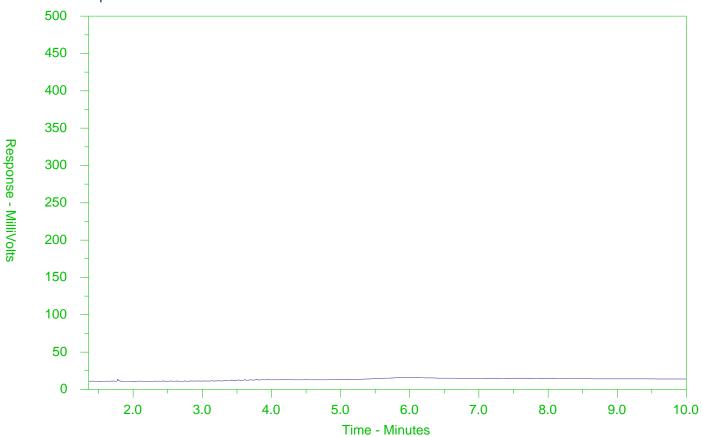
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.

#### CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2336718-3 Client Sample ID: MW102-12.5-14.5



| <b>←</b> -F2- | → ←                  | _F3 <del></del> F4_ | <b>→</b>                     |   |  |  |  |
|---------------|----------------------|---------------------|------------------------------|---|--|--|--|
| nC10          | nC16                 | nC34                | nC50                         |   |  |  |  |
| 174°C         | 287°C                | 481°C               | 575°C                        |   |  |  |  |
| 346°F         | 549°F                | 898°F               | 1067°F                       |   |  |  |  |
| Gasolin       | ie →                 | <b>←</b> Mo         | otor Oils/Lube Oils/Grease—— | - |  |  |  |
| <b>←</b>      | ← 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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.

# ALS Environmental

#### Chain of Custody (COC) / Analytical Request Form

L2336718-COFC

OC Number: 17 -

age of

#### Canada Toll Free: 1 800 668 9878 www.aisglobat.com Conject and compeny name below will appear on the final report Report Format / Distribution Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply) Report To Select Report Format: PPDF PECEL PEDD (DIGITAL) Regular (R) Standard TAT if received by 3 pm - business days - no surcharges apply Company: CH2M Hill/Jacobs Quality Control (QC) Report with Report 🎏 YES 🔲 NO. 4 day [P4-20%] 🔲 1 Business day (E1 - 100%) Andrew Vermeersch Contact; Compare Results to Onteria on Report - provide details below if box checked 3 day [P3-25%] 519 579 3500 x 73247 Phone: Same Day, Weekend or Statutory holiday (£2 -200%) Select Distribution: 🖫 FMAIL 🔲 FAX 2 day [P2-50%] 🛄 (Laboratory opening fees may apply) ? Company address below will appear on the final report, Date and Time Required for all ESP TATE: Email 1 or Fax Andrew.Vermeersch@jacobs.com Street: 72 Victoria Street South, Suite 300 For texts that can not be performed according to the service level selected, you will be contacted. City/Province: Kitchener/Ontano Katherine . Birstehol Cause. Low Analysis Request N2G 4Y9 Postal Code: Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below YES NO nvoice To Same as Report To Select Involce Distribution: 🗌 EMAIL 🔲 MAIL 🔲 FAX Copy of Invoice with Report YES NO Sample is hazardous (pieses provide further Email 1 or Fax Accounts Psyable CH2M Hall Kitchener Сотрапу: Email 2 Accounts Payable Contact: Project Information Oil and Gas Required Fields (client use) BÜ PO# ALS Account # / Quote #: Q72980 AFE/Goat Certer. and Furans (To ALS Routing Code: Major/Minor Code: CE751900 A.CS.EV.A2 Job #: PO / AFE: Requisitioner: SAMPLES ON HOLD Location: ALS Contact: Sampler: Andrew V ALS Leb Work Order # (lab use only): Mathy Date ALS Sample # õ Sample Type PAH (tab use only) (This description will appear on the report) (dd-mmm-yy) (hh:mm) × MW102-7.5195 4340 Sai MW102-7,5-4.5 ų, r x X MW102-12-5-14-5 8×c7 × × MW107-12-5-14-5 kį. 9:44 MW102-25-26 y MW107- 45-26 × ŧ. TEIRRLANK - 20190527 jh. Yo X أيومه فالحمون SAMPLE CONDITION AS RECEIVED (lab use only) Special instructions / Specify Criteria to add on report by clicking on the drop-down list below Drinking Water (DW) Samples<sup>1</sup> (client use) (electronic COC only) П SIF Observations П ice Packs 🔲 loe Cubes 📝 Custody seal intact Are samples taken from a Regulated DW System? ☐ YES ☑ NO Cooling Initiated INJUTAL COOLER TEMPERATURES \*C FINAL COOLER TEMPERATURES \*C Are samples for human consumption/use? ∐ YES MINO FINAL SHIPMENT RECEPTION (lab use only) INITIAL SHIPMENT RECEPTION (lab use only) SHIPMENT RELEASE (client use) Time: Received by: Time: Received by: Released by: 10 145 WHITE - LABORATORY COPY YELLOW - CLIENT COPY



CH2M HILL CANADA LIMITED

ATTN: Michael Shiry

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 06-SEP-19

Report Date: 13-SEP-19 12:41 (MT)

Version: FINAL

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2343122
Project P.O. #: NOT SUBMITTED

Job Reference: CE751900.A.CS.EV.19.19-01 C of C Numbers: 17-826465, 17-826566

Legal Site Desc:

Emily Hansen Account Manager

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CE751900.A.CS.EV.19.19-01

#### **ANALYTICAL GUIDELINE REPORT**

L2343122 CONTD.... Page 2 of 40 13-SEP-19 12:41 (MT)

| Computing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sample Details                          |              |           |        |                    |           |       | 13-SEP-19        | 12:41 (MT) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|--------------|-----------|--------|--------------------|-----------|-------|------------------|------------|
| Sampled By: V PETERS on 06-SEP-19 @ 09-50   Matrix: WATER   WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                         | Result       | Qualifier | D.L.   | Units              | Analyzed  |       | Guideline Limits |            |
| Matrix: WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | L2343122-1 MW109                        |              |           |        |                    |           |       |                  |            |
| Physical Tests                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Sampled By: V PETERS on 05-SEP-19 @ 09: | 50           |           |        |                    |           |       |                  |            |
| Conductivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Matrix: WATER                           |              |           |        |                    |           | #1    |                  |            |
| Conductivity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Physical Toots                          |              |           |        |                    |           |       |                  |            |
| PH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                         | 4.00         |           | 0.0000 | 0,                 | 00.055.40 | ** == |                  |            |
| Anions and Nutrients   Chioride (CI)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                         |              |           |        |                    |           | *0.57 |                  |            |
| Chloride (CI)   A48                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ·                                       | 8.11         |           | 0.10   | pH units           | 09-SEP-19 |       |                  |            |
| Cyanides         Cyanide, Weak Acid Diss         <2.0         2.0         ug/L         10-SEP-19           Metals         Sodium Adsorption Ratio         Incalculable         SAR:INC         0.10         SAR         10-SEP-19           Dissolved Metals         Dissolved Metroury Filtration Location         FIELD         No Unit         09-SEP-19           Dissolved Metals Filtration Location         FIELD         DLHC         1.0         ug/L         09-SEP-19           Arismic (As)-Dissolved         <1.0         DLHC         1.0         ug/L         09-SEP-19           Baryllium (Bs)-Dissolved         <1.0         DLHC         1.0         ug/L         09-SEP-19           Baryllium (Bc)-Dissolved         <1.0         DLHC         1.0         ug/L         09-SEP-19           Baryllium (Bc)-Dissolved         <1.0         DLHC         1.0         ug/L         09-SEP-19           Baryllium (Bc)-Dissolved         <1.0         DLHC         1.0         ug/L         09-SEP-19           Cadminum (Cr)-Dissolved         <1.0         DLHC         1.0         ug/L         09-SEP-19           Cabalt (Ca)-Dissolved         <5.0         DLHC         1.0         ug/L         09-SEP-19           Cobalt (Ca)-Dissolved         <5.0 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |              |           |        |                    |           |       |                  |            |
| Cyanide, Weak Acid Diss   C2.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3.0   C3 | ` '                                     | 448          | DLHC      | 5.0    | mg/L               | 10-SEP-19 |       |                  |            |
| Metais   Sodium Adsorption Ratio   Dissolved Metals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                         |              |           |        |                    |           |       |                  |            |
| Dissolved Metals   Dissolved Mercury Filtration Location   Dissolved Mercury Filtration Location   Dissolved Metals Filtration Location   FIELD   No Unit   O9-SEP-19   No Unit   O9-SEP-19   No Unit   O9-SEP-19   No Unit   O9-SEP-19   No Unit   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19   O9-SEP-19    |                                         | <2.0         |           | 2.0    | ug/L               | 10-SEP-19 |       |                  |            |
| Dissolved Metals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                         |              |           |        |                    |           |       |                  |            |
| Dissolved Mercury Filtration Location         FIELD Dissolved Metals Filtration Location         FIELD FIELD No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. Unit No. U                                         | •                                       | Incalculable | SAR:INC   | 0.10   | SAR                | 10-SEP-19 |       |                  |            |
| Dissolved Metals Filtration Location   Antimony (Sb)-Dissolved   <1.0   DLHC   1.0   ug/L   ug/L   09-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                         |              |           |        |                    |           |       |                  |            |
| Antimony (Sb)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | •                                       |              |           |        |                    |           |       |                  |            |
| Arsenic (As)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                         |              |           |        |                    |           |       |                  |            |
| Barium (Ba)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                         |              |           |        | _                  |           |       |                  |            |
| Beryllium (Be)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | , ,                                     |              | 1         |        | •                  |           |       |                  |            |
| Boron (B)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ` ,                                     | 1            | 1         |        | _                  |           |       |                  |            |
| Cadmium (Cd)-Dissolved         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | • • •                                   |              | 1         |        | _                  |           |       |                  |            |
| Chromium (Cr)-Dissolved         <5.0         DLHC         5.0         ug/L         09-SEP-19           Cobalt (Co)-Dissolved         <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | • ,                                     |              |           |        | _                  |           |       |                  |            |
| Cobalt (Co)-Dissolved         <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ` '                                     |              | 1         |        | _                  |           |       |                  |            |
| Copper (Cu)-Dissolved         2.1         DLHC         2.0         ug/L         10-SEP-19           Lead (Pb)-Dissolved         0.72         DLHC         0.50         ug/L         09-SEP-19           Mercury (Hg)-Dissolved         <0.0050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ` ,                                     | 1            | 1         |        | _                  |           |       |                  |            |
| Lead (Pb)-Dissolved         0.72         DLHC         0.50         ug/L         09-SEP-19           Mercury (Hg)-Dissolved         <0.0050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                         |              | 1         |        | _                  |           |       |                  |            |
| Mercury (Hg)-Dissolved         <0.0050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                         |              | 1         |        | •                  |           |       |                  |            |
| Molybdenum (Mo)-Dissolved         5.65         DLHC         0.50         ug/L         09-SEP-19           Nickel (Ni)-Dissolved         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | , ,                                     |              | DLHC      |        | •                  |           |       |                  |            |
| Nickel (Ni)-Dissolved         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | · · · · · · · · · · · · · · · · · · ·   |              | DILIC     |        | _                  |           |       |                  |            |
| Selenium (Se)-Dissolved         0.57         DLHC         0.50         ug/L         09-SEP-19           Silver (Ag)-Dissolved         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | * *                                     | 1            |           |        | _                  |           |       |                  |            |
| Silver (Ag)-Dissolved         <0.50         DLHC         0.50         ug/L         09-SEP-19           Sodium (Na)-Dissolved         304000         DLHC         500         ug/L         09-SEP-19           Thallium (Tl)-Dissolved         <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ` '                                     |              |           |        | _                  |           |       |                  |            |
| Sodium (Na)-Dissolved   304000   DLHC   500   ug/L   09-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ,                                       | 1            | 1         |        | _                  |           |       |                  |            |
| Thallium (TI)-Dissolved         <0.10         DLHC         0.10         ug/L         09-SEP-19           Uranium (U)-Dissolved         0.34         DLHC         0.10         ug/L         09-SEP-19           Vanadium (V)-Dissolved         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                         |              |           |        | •                  |           |       |                  |            |
| Uranium (U)-Dissolved         0.34         DLHC         0.10         ug/L         09-SEP-19           Vanadium (V)-Dissolved         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                         |              | 1         |        | _                  |           |       |                  |            |
| Vanadium (V)-Dissolved         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | . ,                                     |              | 1         |        | •                  |           |       |                  |            |
| Zinc (Zn)-Dissolved         14         DLHC         10         ug/L         09-SEP-19           Speciated Metals         2.00         0.50         ug/L         10-SEP-19           Chromium, Hexavalent         2.00         0.50         ug/L         10-SEP-19           Volatile Organic Compounds         30         ug/L         11-SEP-19           Benzene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                         |              |           |        | _                  |           |       |                  |            |
| Speciated Metals         2.00         0.50         ug/L         10-SEP-19           Volatile Organic Compounds         <30         30         ug/L         11-SEP-19           Benzene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ` '                                     |              |           |        | _                  |           |       |                  |            |
| Chromium, Hexavalent         2.00         0.50         ug/L         10-SEP-19           Volatile Organic Compounds         <30         30         ug/L         11-SEP-19           Acetone         <30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                         |              | 52.10     |        | ~ <del>9</del> , _ | 00 02: .0 |       |                  |            |
| Volatile Organic Compounds          30         ug/L         11-SEP-19           Acetone         <30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                         | 2.00         |           | 0.50   | ua/l               | 10-SEP-19 |       |                  |            |
| Acetone       <30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                         | 2.00         |           | 0.00   | ug/L               | 10 021 10 |       |                  |            |
| Benzene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                         | <b>~30</b>   |           | 30     | ug/l               | 11-SED-10 |       |                  |            |
| Bromodichloromethane         <2.0         2.0         ug/L         11-SEP-19           Bromoform         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                         |              |           |        | _                  |           |       |                  |            |
| Bromoform <5.0 5.0 ug/L 11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                         |              |           |        | _                  |           |       |                  |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |              |           |        | _                  |           |       |                  |            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                         |              |           |        | _                  |           |       |                  |            |
| Carbon tetrachloride <0.20 0.20 ug/L 11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         | 1            |           |        | _                  |           |       |                  |            |
| Chlorobenzene < 0.50   0.50   ug/L   11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                         |              |           |        | _                  |           |       |                  |            |
| Dibromochloromethane <2.0 2.0 ug/L 11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                         |              |           |        | _                  |           |       |                  |            |
| Chloroform < 1.0   1.0   ug/L   11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                         |              |           |        | _                  |           |       |                  |            |
| 1,2-Dibromoethane <0.20 0.20 ug/L 11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                         |              |           |        | _                  |           |       |                  |            |
| 1,2-Dichlorobenzene <0.50 0.50 ug/L 11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | •                                       | 1            |           |        | _                  |           |       |                  |            |
| 1,3-Dichlorobenzene <0.50 0.50 ug/L 11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | •                                       |              |           |        | _                  |           |       |                  |            |
| 1,4-Dichlorobenzene <0.50 0.50 ug/L 11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | •                                       |              |           |        | _                  |           |       |                  |            |

<sup>\*\*</sup> 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:



CE751900.A.CS.EV.19.19-01

#### **ANALYTICAL GUIDELINE REPORT**

L2343122 CONTD.... Page 3 of 40 13-SEP-19 12:41 (MT)

| Sample Details                                                   |                  |           |                |              |                        | 13-SEP-19 12:41 (MT) |
|------------------------------------------------------------------|------------------|-----------|----------------|--------------|------------------------|----------------------|
| Grouping Analyte                                                 | Result           | Qualifier | D.L.           | Units        | Analyzed               | Guideline Limits     |
| L2343122-1 MW109                                                 |                  |           |                |              |                        |                      |
| Sampled By: V PETERS on 05-SEP-19 @ 09:                          | 50               |           |                |              |                        |                      |
| Matrix: WATER                                                    | ,,               |           |                |              |                        | #1                   |
|                                                                  |                  |           |                |              |                        |                      |
| Volatile Organic Compounds                                       |                  |           |                |              |                        |                      |
| Dichlorodifluoromethane                                          | <2.0             |           | 2.0            | ug/L         | 11-SEP-19              |                      |
| 1,1-Dichloroethane                                               | < 0.50           |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| 1,2-Dichloroethane                                               | < 0.50           |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| 1,1-Dichloroethylene                                             | <0.50            |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| cis-1,2-Dichloroethylene                                         | <0.50            |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| trans-1,2-Dichloroethylene                                       | <0.50            |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| Methylene Chloride                                               | <5.0             |           | 5.0            | ug/L         | 11-SEP-19              |                      |
| 1,2-Dichloropropane                                              | <0.50            |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| cis-1,3-Dichloropropene                                          | <0.30            |           | 0.30           | ug/L         | 11-SEP-19              |                      |
| trans-1,3-Dichloropropene                                        | <0.30<br><0.50   |           | 0.30           | ug/L         | 11-SEP-19              |                      |
| 1,3-Dichloropropene (cis & trans)                                |                  |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| Ethylbenzene<br>n-Hexane                                         | <0.50<br><0.50   |           | 0.50<br>0.50   | ug/L<br>ug/L | 11-SEP-19<br>11-SEP-19 |                      |
| Methyl Ethyl Ketone                                              | <0.50<br><20     |           | 20             | ug/L<br>ug/L | 11-SEP-19              |                      |
| Methyl Isobutyl Ketone                                           | <20              |           | 20             | ug/L<br>ug/L | 11-SEP-19              |                      |
| MTBE                                                             | <2.0             |           | 2.0            | ug/L         | 11-SEP-19              |                      |
| Styrene                                                          | <0.50            |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| 1,1,1,2-Tetrachloroethane                                        | <0.50            |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| 1,1,2,2-Tetrachloroethane                                        | <0.50            |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| Tetrachloroethylene                                              | <0.50            |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| Toluene                                                          | <0.50            |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| 1,1,1-Trichloroethane                                            | < 0.50           |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| 1,1,2-Trichloroethane                                            | < 0.50           |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| Trichloroethylene                                                | < 0.50           |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| Trichlorofluoromethane                                           | <5.0             |           | 5.0            | ug/L         | 11-SEP-19              |                      |
| Vinyl chloride                                                   | < 0.50           |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| o-Xylene                                                         | < 0.30           |           | 0.30           | ug/L         | 11-SEP-19              |                      |
| m+p-Xylenes                                                      | < 0.40           |           | 0.40           | ug/L         | 11-SEP-19              |                      |
| Xylenes (Total)                                                  | < 0.50           |           | 0.50           | ug/L         | 11-SEP-19              |                      |
| Surrogate: 4-Bromofluorobenzene                                  | 93.0             |           | 70-130         | %            | 11-SEP-19              |                      |
| Surrogate: 1,4-Difluorobenzene                                   | 96.1             |           | 70-130         | %            | 11-SEP-19              |                      |
| Hydrocarbons                                                     |                  |           |                |              |                        |                      |
| F1 (C6-C10)                                                      | <25              |           | 25             | ug/L         | 11-SEP-19              |                      |
| F1-BTEX                                                          | <25              |           | 25             | ug/L         | 11-SEP-19              |                      |
| F2 (C10-C16)                                                     | <100             |           | 100            | ug/L         | 10-SEP-19              |                      |
| F2-Naphth                                                        | <100             |           | 100            | ug/L         | 11-SEP-19              |                      |
| F3 (C16-C34)                                                     | <250             |           | 250            | ug/L         | 10-SEP-19              |                      |
| F3-PAH                                                           | <250             |           | 250            | ug/L         | 11-SEP-19              |                      |
| F4 (C34-C50)                                                     | <250             |           | 250            | ug/L         | 10-SEP-19              |                      |
| Total Hydrocarbons (C6-C50)                                      | <370             |           | 370            | ug/L         | 11-SEP-19              |                      |
| Chrom. to baseline at nC50 Surrogate: 2-Bromobenzotrifluoride    | YES<br>87.5      |           | 60-140         | No Unit<br>% | 10-SEP-19<br>10-SEP-19 |                      |
| Surrogate: 2-Bromobenzotrinuoride Surrogate: 3,4-Dichlorotoluene | 87.5<br>93.5     |           | 60-140         | %<br>%       | 10-SEP-19<br>11-SEP-19 |                      |
| Polycyclic Aromatic Hydrocarbons                                 | შა.ט             |           | 00-140         | /0           | 11-357-19              |                      |
|                                                                  | ~0 020           |           | 0.020          | 110/1        | 11 SED 10              |                      |
| Acenaphthene<br>Acenaphthylene                                   | <0.020<br><0.020 |           | 0.020<br>0.020 | ug/L<br>ug/L | 11-SEP-19<br>11-SEP-19 |                      |
| Acenaphinylene<br>Anthracene                                     | <0.020           |           | 0.020          | ug/L<br>ug/L | 11-SEP-19              |                      |
| Benzo(a)anthracene                                               | <0.020           |           | 0.020          | ug/L<br>ug/L | 11-SEP-19<br>11-SEP-19 |                      |
| Delizo(a)altillacelle                                            | <u> </u>         | 1         | 0.020          | ug/L         | 11-3EP-19              |                      |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



# **ANALYTICAL GUIDELINE REPORT**

L2343122 CONTD....

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| Sample Details                                         |                  |           |                |              |                        |       | 13-SEP-19 12:41 (MT) |
|--------------------------------------------------------|------------------|-----------|----------------|--------------|------------------------|-------|----------------------|
| Grouping Analyte                                       | Result           | Qualifier | D.L.           | Units        | Analyzed               |       | Guideline Limits     |
| L2343122-1 MW109                                       |                  |           |                |              |                        |       |                      |
| Sampled By: V PETERS on 05-SEP-19 @ 09:                | 50               |           |                |              |                        |       |                      |
| Matrix: WATER                                          |                  |           |                |              |                        | #1    |                      |
|                                                        |                  |           |                |              |                        |       |                      |
| Polycyclic Aromatic Hydrocarbons                       |                  |           |                |              |                        |       |                      |
| Benzo(a)pyrene                                         | <0.010           |           | 0.010          | ug/L         | 11-SEP-19              |       |                      |
| Benzo(b)fluoranthene                                   | <0.020           |           | 0.020          | ug/L         | 11-SEP-19              |       |                      |
| Benzo(g,h,i)perylene                                   | <0.020           |           | 0.020          | ug/L         | 11-SEP-19              |       |                      |
| Benzo(k)fluoranthene                                   | <0.020           |           | 0.020          | ug/L         | 11-SEP-19              |       |                      |
| Chrysene                                               | <0.020<br><0.020 |           | 0.020          | ug/L         | 11-SEP-19              |       |                      |
| Dibenzo(ah)anthracene<br>Fluoranthene                  | <0.020           |           | 0.020<br>0.020 | ug/L         | 11-SEP-19<br>11-SEP-19 |       |                      |
| Fluorene                                               | <0.020           |           | 0.020          | ug/L<br>ug/L | 11-SEP-19              |       |                      |
| Indeno(1,2,3-cd)pyrene                                 | <0.020           |           | 0.020          | ug/L<br>ug/L | 11-SEP-19              |       |                      |
| 1+2-Methylnaphthalenes                                 | <0.020           |           | 0.020          | ug/L<br>ug/L | 11-SEP-19              |       |                      |
| 1-Methylnaphthalene                                    | <0.020           |           | 0.028          | ug/L<br>ug/L | 11-SEP-19              |       |                      |
| 2-Methylnaphthalene                                    | <0.020           |           | 0.020          | ug/L<br>ug/L | 11-SEP-19              |       |                      |
| Naphthalene                                            | <0.020           |           | 0.020          | ug/L<br>ug/L | 11-SEP-19              |       |                      |
| Phenanthrene                                           | <0.020           |           | 0.030          | ug/L<br>ug/L | 11-SEP-19              |       |                      |
| Pyrene                                                 | <0.020           |           | 0.020          | ug/L         | 11-SEP-19              |       |                      |
| Surrogate: d10-Acenaphthene                            | 107.0            |           | 60-140         | ug/L<br>  %  | 11-SEP-19              |       |                      |
| Surrogate: d12-Chrysene                                | 103.0            |           | 60-140         | %            | 11-SEP-19              |       |                      |
| Surrogate: d8-Naphthalene                              | 110.5            |           | 60-140         | %            | 11-SEP-19              |       |                      |
| Surrogate: d10-Phenanthrene                            | 108.2            |           | 60-140         | %            | 11-SEP-19              |       |                      |
| Sampled By: V PETERS on 05-SEP-19 @ 11:  Matrix: WATER | 20               |           |                |              |                        | #1    |                      |
| Physical Tests                                         |                  |           |                |              |                        |       |                      |
| Conductivity                                           | 1.85             |           | 0.0030         | mS/cm        | 09-SEP-19              | *0.57 |                      |
| pH                                                     | 7.93             |           | 0.10           | pH units     | 09-SEP-19              |       |                      |
| Anions and Nutrients                                   |                  |           |                |              |                        |       |                      |
| Chloride (CI)                                          | 2640             | DLHC      | 5.0            | mg/L         | 10-SEP-19              |       |                      |
| Cyanides                                               |                  |           |                |              |                        |       |                      |
| Cyanide, Weak Acid Diss                                | <2.0             |           | 2.0            | ug/L         | 10-SEP-19              |       |                      |
| Metals                                                 |                  |           |                |              |                        |       |                      |
| Sodium Adsorption Ratio                                | <10              | SAR:DL    | 10             | SAR          | 10-SEP-19              | **2.4 |                      |
| Dissolved Metals                                       |                  | 07 1.12   |                | 0            |                        | _, ,  |                      |
| Dissolved Mercury Filtration Location                  | FIELD            |           |                | No Unit      | 09-SEP-19              |       |                      |
| Dissolved Metals Filtration Location                   | FIELD            |           |                | No Unit      | 09-SEP-19              |       |                      |
| Antimony (Sb)-Dissolved                                | 0.43             |           | 0.10           | ug/L         | 10-SEP-19              |       |                      |
| Arsenic (As)-Dissolved                                 | 0.43             |           | 0.10           | ug/L<br>ug/L | 10-SEP-19              |       |                      |
| Barium (Ba)-Dissolved                                  | 99.5             |           | 0.10           | ug/L<br>ug/L | 10-SEP-19              |       |                      |
| Beryllium (Be)-Dissolved                               | <0.10            |           | 0.10           | ug/L         | 10-SEP-19              |       |                      |
| Boron (B)-Dissolved                                    | 64               |           | 10             | ug/L         | 10-SEP-19              |       |                      |
| Cadmium (Cd)-Dissolved                                 | <0.010           |           | 0.010          | ug/L         | 10-SEP-19              |       |                      |
| Chromium (Cr)-Dissolved                                | 1.24             |           | 0.50           | ug/L         | 10-SEP-19              |       |                      |
| Cobalt (Co)-Dissolved                                  | 0.33             |           | 0.10           | ug/L         | 10-SEP-19              |       |                      |
| Copper (Cu)-Dissolved                                  | 4.01             |           | 0.20           | ug/L         | 10-SEP-19              |       |                      |
| Lead (Pb)-Dissolved                                    | 0.061            |           | 0.050          | ug/L         | 10-SEP-19              |       |                      |
| Mercury (Hg)-Dissolved                                 | <0.0050          |           | 0.0050         | ug/L         | 10-SEP-19              |       |                      |
| Molybdenum (Mo)-Dissolved                              | 14.2             |           | 0.050          | ug/L         | 10-SEP-19              |       |                      |

<sup>\*\*</sup> 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:



L2343122 CONTD....
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13-SEP-19 12:41 (MT)

| CE751900.A.CS.EV.19.19-01                     | ANALI          | IICAL     | טוטט         | CLINE | KEPUK                  | Page 5 of 40<br>13-SEP-19 12:41 (MT) |
|-----------------------------------------------|----------------|-----------|--------------|-------|------------------------|--------------------------------------|
| Sample Details                                |                |           |              |       |                        |                                      |
| Grouping Analyte                              | Result         | Qualifier | D.L.         | Units | Analyzed               | Guideline Limits                     |
| L2343122-2 MW108                              |                |           |              |       |                        |                                      |
| Sampled By: V PETERS on 05-SEP-19 @           | 11:20          |           |              |       |                        |                                      |
| Matrix: WATER                                 |                |           |              |       |                        | #1                                   |
|                                               |                |           |              |       |                        |                                      |
| Dissolved Metals                              |                |           |              |       |                        |                                      |
| Nickel (Ni)-Dissolved                         | 3.44           |           | 0.50         | ug/L  | 10-SEP-19              |                                      |
| Selenium (Se)-Dissolved                       | 0.253          |           | 0.050        | ug/L  | 10-SEP-19              |                                      |
| Silver (Ag)-Dissolved                         | <0.050         |           | 0.050        | ug/L  | 10-SEP-19              |                                      |
| Sodium (Na)-Dissolved                         | 131000         | DLHC      | 500          | ug/L  | 09-SEP-19              |                                      |
| Thallium (TI)-Dissolved                       | 0.055          |           | 0.010        | ug/L  | 10-SEP-19              |                                      |
| Uranium (U)-Dissolved                         | 2.33           |           | 0.010        | ug/L  | 10-SEP-19              |                                      |
| Vanadium (V)-Dissolved                        | 0.76           |           | 0.50         | ug/L  | 10-SEP-19              |                                      |
| Zinc (Zn)-Dissolved                           | 1.7            |           | 1.0          | ug/L  | 10-SEP-19              |                                      |
| Speciated Metals                              |                |           |              |       |                        |                                      |
| Chromium, Hexavalent                          | <0.50          |           | 0.50         | ug/L  | 10-SEP-19              |                                      |
| Volatile Organic Compounds                    |                |           |              |       |                        |                                      |
| Acetone                                       | <30            |           | 30           | ug/L  | 11-SEP-19              |                                      |
| Benzene                                       | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| Bromodichloromethane                          | <2.0           |           | 2.0          | ug/L  | 11-SEP-19              |                                      |
| Bromoform                                     | <5.0           |           | 5.0          | ug/L  | 11-SEP-19              |                                      |
| Bromomethane                                  | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| Carbon tetrachloride                          | <0.20          |           | 0.20         | ug/L  | 11-SEP-19              |                                      |
| Chlorobenzene                                 | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| Dibromochloromethane                          | <2.0           |           | 2.0          | ug/L  | 11-SEP-19              |                                      |
| Chloroform                                    | 2.3            |           | 1.0          | ug/L  | 11-SEP-19              |                                      |
| 1,2-Dibromoethane                             | <0.20          |           | 0.20         | ug/L  | 11-SEP-19              |                                      |
| 1,2-Dichlorobenzene                           | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| 1,3-Dichlorobenzene                           | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| 1,4-Dichlorobenzene                           | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| Dichlorodifluoromethane                       | <2.0           |           | 2.0          | ug/L  | 11-SEP-19              |                                      |
| 1,1-Dichloroethane                            | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| 1,2-Dichloroethane                            | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| 1,1-Dichloroethylene                          | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| cis-1,2-Dichloroethylene                      | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| trans-1,2-Dichloroethylene                    | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| Methylene Chloride                            | <5.0           |           | 5.0          | ug/L  | 11-SEP-19              |                                      |
| 1,2-Dichloropropane                           | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| cis-1,3-Dichloropropene                       | <0.30          |           | 0.30         | ug/L  | 11-SEP-19              |                                      |
| trans-1,3-Dichloropropene                     | <0.30          |           | 0.30         | ug/L  | 11-SEP-19              |                                      |
| 1,3-Dichloropropene (cis & trans)             | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| Ethylbenzene                                  | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| n-Hexane                                      | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |
| Methyl Leobutyl Kotone                        | <20            |           | 20           | ug/L  | 11-SEP-19              |                                      |
| Methyl Isobutyl Ketone<br>MTBE                | <20            |           | 20           | ug/L  | 11-SEP-19              |                                      |
| MTBE<br>Styrene                               | <2.0           |           | 2.0          | ug/L  | 11-SEP-19              |                                      |
| Styrene<br>1,1,1,2-Tetrachloroethane          | <0.50<br><0.50 |           | 0.50<br>0.50 | ug/L  | 11-SEP-19<br>11-SEP-19 |                                      |
|                                               |                |           |              | ug/L  |                        |                                      |
| 1,1,2,2-Tetrachloroethane Tetrachloroethylene | <0.50<br><0.50 |           | 0.50<br>0.50 | ug/L  | 11-SEP-19<br>11-SEP-19 |                                      |
| Tetrachioroethylene<br>Toluene                | <0.50<br><0.50 |           | 0.50         | ug/L  | 11-SEP-19<br>11-SEP-19 |                                      |
| 1,1,1-Trichloroethane                         | <0.50<br><0.50 |           | 0.50         | ug/L  | 11-SEP-19<br>11-SEP-19 |                                      |
| 1,1,2-Trichloroethane                         | <0.50          |           | 0.50         | ug/L  | 11-SEP-19<br>11-SEP-19 |                                      |
| Trichloroethylene                             | <0.50<br><0.50 |           |              | ug/L  |                        |                                      |
| тнопютоетнутеле                               | <0.50          |           | 0.50         | ug/L  | 11-SEP-19              |                                      |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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|-----------------------------------------------------------------|----------------------------------------------|------------------------------------|----------------|--------------|------------------------|----|-----------------|
| Sample Details<br>Grouping Analyte                              | Result                                       | Qualifier                          | D.L.           | Units        | Analyzed               | Gı | uideline Limits |
| 2343122-2 MW108                                                 |                                              |                                    |                |              |                        |    |                 |
| campled By: V PETERS on 05-SEP-19 @ 1                           | 1:20                                         |                                    |                |              |                        |    |                 |
| Matrix: WATER                                                   |                                              |                                    |                |              |                        | #1 |                 |
|                                                                 |                                              |                                    |                |              |                        |    |                 |
| /olatile Organic Compounds                                      |                                              |                                    |                | ,,           | 44.055.40              |    |                 |
| Trichlorofluoromethane                                          | <5.0                                         |                                    | 5.0            | ug/L         | 11-SEP-19              |    |                 |
| Vinyl chloride                                                  | <0.50                                        |                                    | 0.50           | ug/L         | 11-SEP-19              |    |                 |
| o-Xylene                                                        | <0.30                                        |                                    | 0.30           | ug/L         | 11-SEP-19              |    |                 |
| m+p-Xylenes                                                     | <0.40<br><0.50                               |                                    | 0.40<br>0.50   | ug/L         | 11-SEP-19<br>11-SEP-19 |    |                 |
| Xylenes (Total)                                                 | 94.0                                         |                                    | 70-130         | ug/L<br>%    | 11-SEP-19              |    |                 |
| Surrogate: 4-Bromofluorobenzene                                 | 94.0                                         |                                    | 70-130         | %<br>%       | 11-SEP-19              |    |                 |
| Surrogate: 1,4-Difluorobenzene  lydrocarbons                    | 96.3                                         |                                    | 70-130         | 70           | 11-3EF-19              |    |                 |
| •                                                               | 0.5                                          |                                    | 0.5            | ,,           | 44.055.40              |    |                 |
| F1 (C6-C10)                                                     | <25                                          |                                    | 25             | ug/L         | 11-SEP-19              |    |                 |
| F1-BTEX                                                         | <25                                          |                                    | 25             | ug/L         | 11-SEP-19              |    |                 |
| F2 (C10-C16)                                                    | <100                                         |                                    | 100            | ug/L         | 10-SEP-19              |    |                 |
| F2-Naphth                                                       | <100                                         |                                    | 100            | ug/L         | 11-SEP-19              |    |                 |
| F3 (C16-C34)                                                    | <250                                         |                                    | 250            | ug/L         | 10-SEP-19              |    |                 |
| F3-PAH                                                          | <250                                         |                                    | 250            | ug/L         | 11-SEP-19              |    |                 |
| F4 (C34-C50)                                                    | <250                                         |                                    | 250            | ug/L         | 10-SEP-19              |    |                 |
| Total Hydrocarbons (C6-C50)                                     | <370<br>VEC                                  |                                    | 370            | ug/L         | 11-SEP-19              |    |                 |
| Chrom. to baseline at nC50                                      | YES<br>86.9                                  |                                    | 60-140         | No Unit      | 10-SEP-19<br>10-SEP-19 |    |                 |
| Surrogate: 2-Bromobenzotrifluoride                              | 101.0                                        |                                    | 60-140         |              | 10-SEP-19<br>11-SEP-19 |    |                 |
| Surrogate: 3,4-Dichlorotoluene Polycyclic Aromatic Hydrocarbons | 101.0                                        |                                    | 60-140         | %            | 11-SEP-19              |    |                 |
|                                                                 | 0.000                                        |                                    | 0.000          | ,,           | 44.055.40              |    |                 |
| Acenaphthene                                                    | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| Acenaphthylene                                                  | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| Anthracene                                                      | <0.020<br><0.020                             |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| Benzo(a)anthracene                                              | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19<br>11-SEP-19 |    |                 |
| Benzo(a)pyrene<br>Benzo(b)fluoranthene                          | <0.010                                       |                                    | 0.010<br>0.020 | ug/L         | 11-SEP-19              |    |                 |
| Benzo(g,h,i)perylene                                            | <0.020                                       |                                    | 0.020          | ug/L<br>ug/L | 11-SEP-19              |    |                 |
| Benzo(k)fluoranthene                                            | <0.020                                       |                                    | 0.020          | ug/L<br>ug/L | 11-SEP-19              |    |                 |
| Chrysene                                                        | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| Dibenzo(ah)anthracene                                           | <0.020                                       |                                    | 0.020          | ug/L<br>ug/L | 11-SEP-19              |    |                 |
| Fluoranthene                                                    | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| Fluorene                                                        | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| Indeno(1,2,3-cd)pyrene                                          | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| 1+2-Methylnaphthalenes                                          | <0.028                                       |                                    | 0.028          | ug/L         | 11-SEP-19              |    |                 |
| 1-Methylnaphthalene                                             | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| 2-Methylnaphthalene                                             | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| Naphthalene                                                     | <0.050                                       |                                    | 0.050          | ug/L         | 11-SEP-19              |    |                 |
| Phenanthrene                                                    | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| Pyrene                                                          | <0.020                                       |                                    | 0.020          | ug/L         | 11-SEP-19              |    |                 |
| Surrogate: d10-Acenaphthene                                     | 101.3                                        |                                    | 60-140         | %            | 11-SEP-19              |    |                 |
| Surrogate: d12-Chrysene                                         | 99.8                                         |                                    | 60-140         | %            | 11-SEP-19              |    |                 |
| Surrogate: d8-Naphthalene                                       | 104.2                                        |                                    | 60-140         | %            | 11-SEP-19              |    |                 |
| Surrogate: d10-Phenanthrene                                     | 101.4                                        |                                    | 60-140         | %            | 11-SEP-19              |    |                 |
| 2343122-3 MW104                                                 |                                              |                                    |                |              |                        |    |                 |
| ampled By: V PETERS on 05-SEP-19 @ 1                            | 3:10                                         |                                    |                |              |                        |    |                 |
|                                                                 | 3.10                                         |                                    |                |              |                        | #1 |                 |
| Matrix: WATER                                                   |                                              |                                    |                |              |                        |    |                 |
|                                                                 |                                              |                                    | 1              |              |                        |    |                 |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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|-----------------------------------------------|------------------|-----------|--------------|--------------|------------------------|-------|--------------------|
| Sample Details Grouping Analyte               | Result           | Qualifier | D.L.         | Units        | Analyzed               |       | Guideline Limits   |
| L2343122-3 MW104                              |                  |           |              |              |                        |       |                    |
| Sampled By: V PETERS on 05-SEP-19 @ 13        | s: <b>1</b> 0    |           |              |              |                        |       |                    |
| Matrix: WATER                                 |                  |           |              |              |                        | #1    |                    |
| Physical Tests                                |                  |           |              |              |                        |       |                    |
| •                                             | 7.04             |           | 0.0000       | 0/200        | 00.050.40              | +0.57 |                    |
| Conductivity                                  | 7.24             |           | 0.0030       | mS/cm        | 09-SEP-19              | *0.57 |                    |
| pH<br>Anions and Nutrients                    | 7.80             |           | 0.10         | pH units     | 09-SEP-19              |       |                    |
|                                               | 0000             | 51110     | 4.0          | ,            | 40.055.40              |       |                    |
| Chloride (CI)                                 | 2660             | DLHC      | 10           | mg/L         | 10-SEP-19              |       |                    |
| Cyanides                                      |                  |           |              | ,,           |                        |       |                    |
| Cyanide, Weak Acid Diss<br>Metals             | <2.0             |           | 2.0          | ug/L         | 10-SEP-19              |       |                    |
| Sodium Adsorption Ratio                       | <130             | SAR:DL    | 130          | SAR          | 10-SEP-19              | **2.4 |                    |
| Dissolved Metals                              |                  |           |              |              |                        |       |                    |
| Dissolved Mercury Filtration Location         | FIELD            |           |              | No Unit      | 09-SEP-19              |       |                    |
| Dissolved Metals Filtration Location          | FIELD            |           |              | No Unit      | 09-SEP-19              |       |                    |
| Antimony (Sb)-Dissolved                       | <1.0             | DLHC      | 1.0          | ug/L         | 09-SEP-19              |       |                    |
| Arsenic (As)-Dissolved                        | <1.0             | DLHC      | 1.0          | ug/L         | 09-SEP-19              |       |                    |
| Barium (Ba)-Dissolved                         | 164              | DLHC      | 1.0          | ug/L         | 09-SEP-19              |       |                    |
| Beryllium (Be)-Dissolved                      | <1.0             | DLHC      | 1.0          | ug/L         | 09-SEP-19              |       |                    |
| Boron (B)-Dissolved                           | <100             | DLHC      | 100          | ug/L         | 09-SEP-19              |       |                    |
| Cadmium (Cd)-Dissolved                        | <0.050           | DLHC      | 0.050        | ug/L         | 09-SEP-19              |       |                    |
| Chromium (Cr)-Dissolved                       | <5.0             | DLHC      | 5.0          | ug/L         | 09-SEP-19              |       |                    |
| Cobalt (Co)-Dissolved                         | <1.0             | DLHC      | 1.0          | ug/L         | 09-SEP-19              |       |                    |
| Copper (Cu)-Dissolved                         | 2.1              | DLHC      | 2.0          | ug/L         | 09-SEP-19              |       |                    |
| Lead (Pb)-Dissolved                           | <0.50            | DLHC      | 0.50         | ug/L         | 09-SEP-19              |       |                    |
| Mercury (Hg)-Dissolved                        | <0.0050          | 51110     | 0.0050       | ug/L         | 10-SEP-19              |       |                    |
| Molybdenum (Mo)-Dissolved                     | 17.6             | DLHC      | 0.50         | ug/L         | 09-SEP-19              |       |                    |
| Nickel (Ni)-Dissolved                         | <5.0             | DLHC      | 5.0          | ug/L         | 09-SEP-19              |       |                    |
| Selenium (Se)-Dissolved                       | <0.50            | DLHC      | 0.50         | ug/L         | 09-SEP-19              |       |                    |
| Silver (Ag)-Dissolved                         | <0.50            | DLHC      | 0.50         | ug/L         | 09-SEP-19<br>10-SEP-19 |       |                    |
| Sodium (Na)-Dissolved Thallium (TI)-Dissolved | 1360000<br><0.10 | DLHC      | 5000<br>0.10 | ug/L         | 09-SEP-19              |       |                    |
| Uranium (U)-Dissolved                         | 1.83             | DLHC      | 0.10         | ug/L<br>ug/L | 09-SEP-19              |       |                    |
| Vanadium (V)-Dissolved                        | <5.0             | DLHC      | 5.0          | ug/L<br>ug/L | 09-SEP-19              |       |                    |
| Zinc (Zn)-Dissolved                           | <10              | DLHC      | 10           | ug/L         | 09-SEP-19              |       |                    |
| Speciated Metals                              |                  | DEITO     | 10           | ug/L         | 00 021 10              |       |                    |
| Chromium, Hexavalent                          | <0.50            |           | 0.50         | ug/L         | 10-SEP-19              |       |                    |
| Volatile Organic Compounds                    | 10.00            |           | 0.00         | ug/ L        | 10 02. 10              |       |                    |
| Acetone                                       | <30              |           | 30           | ug/L         | 11-SEP-19              |       |                    |
| Benzene                                       | <0.50            |           | 0.50         | ug/L         | 11-SEP-19              |       |                    |
| Bromodichloromethane                          | 4.7              |           | 2.0          | ug/L         | 11-SEP-19              |       |                    |
| Bromoform                                     | <5.0             |           | 5.0          | ug/L         | 11-SEP-19              |       |                    |
| Bromomethane                                  | <0.50            |           | 0.50         | ug/L         | 11-SEP-19              |       |                    |
| Carbon tetrachloride                          | <0.20            |           | 0.20         | ug/L         | 11-SEP-19              |       |                    |
| Chlorobenzene                                 | <0.50            |           | 0.50         | ug/L         | 11-SEP-19              |       |                    |
| Dibromochloromethane                          | 4.1              |           | 2.0          | ug/L         | 11-SEP-19              |       |                    |
| Chloroform                                    | 4.9              |           | 1.0          | ug/L         | 11-SEP-19              |       |                    |
| 1,2-Dibromoethane                             | <0.20            |           | 0.20         | ug/L         | 11-SEP-19              |       |                    |
| 1,2-Dichlorobenzene                           | <0.50            |           | 0.50         | ug/L         | 11-SEP-19              |       |                    |
| 1,3-Dichlorobenzene                           | <0.50            |           | 0.50         | ug/L         | 11-SEP-19              |       |                    |
| 1,4-Dichlorobenzene                           | <0.50            |           | 0.50         | ug/L         | 11-SEP-19              |       |                    |
|                                               |                  |           | I .          | 1            | 1                      |       |                    |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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|-----------------------------------------|---------|-----------|----------|---------|-----------|--------------------------------------|
| Sample Details                          | Danult  | 0         | <u> </u> | l laita | A l l     |                                      |
| Grouping Analyte                        | Result  | Qualifier | D.L.     | Units   | Analyzed  | Guideline Limits                     |
| L2343122-3 MW104                        |         |           |          |         |           |                                      |
| Sampled By: V PETERS on 05-SEP-19 @ 13: | 10      |           |          |         |           | 4                                    |
| Matrix: WATER                           |         |           |          |         |           | #1                                   |
| Volatile Organic Compounds              |         |           |          |         |           |                                      |
| Dichlorodifluoromethane                 | <2.0    |           | 2.0      | ug/L    | 11-SEP-19 |                                      |
| 1.1-Dichloroethane                      | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| 1,2-Dichloroethane                      | <0.50   |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| 1,1-Dichloroethylene                    | <0.50   |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| cis-1,2-Dichloroethylene                | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| trans-1,2-Dichloroethylene              | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| Methylene Chloride                      | <5.0    |           | 5.0      | ug/L    | 11-SEP-19 |                                      |
| 1,2-Dichloropropane                     | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| cis-1,3-Dichloropropene                 | < 0.30  |           | 0.30     | ug/L    | 11-SEP-19 |                                      |
| trans-1,3-Dichloropropene               | < 0.30  |           | 0.30     | ug/L    | 11-SEP-19 |                                      |
| 1,3-Dichloropropene (cis & trans)       | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| Ethylbenzene                            | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| n-Hexane                                | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| Methyl Ethyl Ketone                     | <20     |           | 20       | ug/L    | 11-SEP-19 |                                      |
| Methyl Isobutyl Ketone                  | <20     |           | 20       | ug/L    | 11-SEP-19 |                                      |
| MTBE                                    | <2.0    |           | 2.0      | ug/L    | 11-SEP-19 |                                      |
| Styrene                                 | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| 1,1,1,2-Tetrachloroethane               | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| 1,1,2,2-Tetrachloroethane               | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| Tetrachloroethylene                     | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| Toluene                                 | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| 1,1,1-Trichloroethane                   | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| 1,1,2-Trichloroethane                   | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| Trichloroethylene                       | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| Trichlorofluoromethane                  | <5.0    |           | 5.0      | ug/L    | 11-SEP-19 |                                      |
| Vinyl chloride                          | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| o-Xylene                                | < 0.30  |           | 0.30     | ug/L    | 11-SEP-19 |                                      |
| m+p-Xylenes                             | < 0.40  |           | 0.40     | ug/L    | 11-SEP-19 |                                      |
| Xylenes (Total)                         | < 0.50  |           | 0.50     | ug/L    | 11-SEP-19 |                                      |
| Surrogate: 4-Bromofluorobenzene         | 91.4    |           | 70-130   | %       | 11-SEP-19 |                                      |
| Surrogate: 1,4-Difluorobenzene          | 95.8    |           | 70-130   | %       | 11-SEP-19 |                                      |
| Hydrocarbons                            |         |           |          |         |           |                                      |
| F1 (C6-C10)                             | <25     |           | 25       | ug/L    | 11-SEP-19 |                                      |
| F1-BTEX                                 | <25     |           | 25       | ug/L    | 13-SEP-19 |                                      |
| F2 (C10-C16)                            | <100    |           | 100      | ug/L    | 10-SEP-19 |                                      |
| F2-Naphth                               | <100    |           | 100      | ug/L    | 13-SEP-19 |                                      |
| F3 (C16-C34)                            | <250    |           | 250      | ug/L    | 10-SEP-19 |                                      |
| F3-PAH                                  | <250    |           | 250      | ug/L    | 13-SEP-19 |                                      |
| F4 (C34-C50)                            | <250    |           | 250      | ug/L    | 10-SEP-19 |                                      |
| Total Hydrocarbons (C6-C50)             | <370    |           | 370      | ug/L    | 13-SEP-19 |                                      |
| Chrom. to baseline at nC50              | YES     |           |          | No Unit | 10-SEP-19 |                                      |
| Surrogate: 2-Bromobenzotrifluoride      | 86.8    |           | 60-140   | %       | 10-SEP-19 |                                      |
| Surrogate: 3,4-Dichlorotoluene          | 99.8    |           | 60-140   | %       | 11-SEP-19 |                                      |
| Polycyclic Aromatic Hydrocarbons        |         |           |          |         |           |                                      |
| Acenaphthene                            | <0.020  |           | 0.020    | ug/L    | 11-SEP-19 |                                      |
| Acenaphthylene                          | < 0.020 |           | 0.020    | ug/L    | 11-SEP-19 |                                      |
| Anthracene                              | <0.020  |           | 0.020    | ug/L    | 11-SEP-19 |                                      |
| Benzo(a)anthracene                      | <0.020  |           | 0.020    | ug/L    | 11-SEP-19 |                                      |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



# **ANALYTICAL GUIDELINE REPORT**

L2343122 CONTD.... Page 9 of 40 13-SEP-19 12:41 (MT)

| Sample Details                          |                |           |              |              |                        |       |          | 13-SEP-19 1 | 2:41 (MT) |
|-----------------------------------------|----------------|-----------|--------------|--------------|------------------------|-------|----------|-------------|-----------|
| Grouping Analyte                        | Result         | Qualifier | D.L.         | Units        | Analyzed               |       | Guidelir | ne Limits   |           |
| L2343122-3 MW104                        |                |           |              |              |                        |       |          |             |           |
| Sampled By: V PETERS on 05-SEP-19 @ 13: | 10             |           |              |              |                        |       |          |             |           |
| Matrix: WATER                           |                |           |              |              |                        | #1    |          |             |           |
| Polycyclic Aromatic Hydrocarbons        |                |           |              |              |                        |       |          |             |           |
| Benzo(a)pyrene                          | <0.010         |           | 0.010        | ug/L         | 11-SEP-19              |       |          |             |           |
| Benzo(b)fluoranthene                    | <0.010         |           | 0.010        | ug/L<br>ug/L | 11-SEP-19              |       |          |             |           |
| Benzo(g,h,i)perylene                    | <0.020         |           | 0.020        | ug/L<br>ug/L | 11-SEP-19              |       |          |             |           |
| Benzo(k)fluoranthene                    | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| Chrysene                                | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| Dibenzo(ah)anthracene                   | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| Fluoranthene                            | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| Fluorene                                | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| Indeno(1,2,3-cd)pyrene                  | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| 1+2-Methylnaphthalenes                  | <0.028         |           | 0.028        | ug/L         | 13-SEP-19              |       |          |             |           |
| 1-Methylnaphthalene                     | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| 2-Methylnaphthalene                     | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| Naphthalene                             | <0.050         |           | 0.050        | ug/L         | 11-SEP-19              |       |          |             |           |
| Phenanthrene                            | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| Pyrene                                  | <0.020         |           | 0.020        | ug/L         | 11-SEP-19              |       |          |             |           |
| Surrogate: d10-Acenaphthene             | 107.5          |           | 60-140       | %            | 11-SEP-19              |       |          |             |           |
| Surrogate: d12-Chrysene                 | 106.5          |           | 60-140       | %            | 11-SEP-19              |       |          |             |           |
| Surrogate: d8-Naphthalene               | 111.1          |           | 60-140       | %            | 11-SEP-19              |       |          |             |           |
| Surrogate: d10-Phenanthrene             | 106.2          |           | 60-140       | %            | 11-SEP-19              |       |          |             |           |
| Semi-Volatile Organics                  |                |           |              |              |                        |       |          |             |           |
| Biphenyl                                | <0.40          |           | 0.40         | ug/L         | 13-SEP-19              |       |          |             |           |
| 4-Chloroaniline                         | <0.40          |           | 0.40         | ug/L         | 13-SEP-19              |       |          |             |           |
| Bis(2-chloroethyl)ether                 | <0.40          |           | 0.40         | ug/L         | 13-SEP-19              |       |          |             |           |
| Bis(2-chloroisopropyl)ether             | <0.40          |           | 0.40         | ug/L         | 13-SEP-19              |       |          |             |           |
| 3,3'-Dichlorobenzidine                  | <0.40          |           | 0.40         | ug/L         | 13-SEP-19              |       |          |             |           |
| Diethylphthalate<br>Dimethylphthalate   | <0.20<br><0.20 |           | 0.20<br>0.20 | ug/L<br>ug/L | 13-SEP-19<br>13-SEP-19 |       |          |             |           |
| 2,4-Dimethylphenol                      | <0.50          |           | 0.50         | ug/L<br>ug/L | 13-SEP-19              |       |          |             |           |
| 2,4-Dinitrophenol                       | <1.0           |           | 1.0          | ug/L         | 13-SEP-19              |       |          |             |           |
| 2,4-Dinitrotoluene                      | <0.40          |           | 0.40         | ug/L         | 13-SEP-19              |       |          |             |           |
| 2,6-Dinitrotoluene                      | <0.40          |           | 0.40         | ug/L         | 13-SEP-19              |       |          |             |           |
| 2,4+2,6-Dinitrotoluene                  | <0.57          |           | 0.57         | ug/L         | 13-SEP-19              |       |          |             |           |
| Bis(2-ethylhexyl)phthalate              | 2.0            |           | 2.0          | ug/L         | 13-SEP-19              |       |          |             |           |
| Phenol                                  | <0.50          |           | 0.50         | ug/L         | 13-SEP-19              |       |          |             |           |
| 1,2,4-Trichlorobenzene                  | <0.40          |           | 0.40         | ug/L         | 13-SEP-19              |       |          |             |           |
| Surrogate: 2-Fluorobiphenyl             | 93.8           |           | 50-140       | %            | 13-SEP-19              |       |          |             |           |
| Surrogate: Nitrobenzene d5              | 103.4          |           | 50-140       | %            | 13-SEP-19              |       |          |             |           |
| Surrogate: Phenol d5                    | 51.4           |           | 30-130       | %            | 13-SEP-19              |       |          |             |           |
| Surrogate: p-Terphenyl d14              | 102.8          |           | 60-140       | %            | 13-SEP-19              |       |          |             |           |
| Surrogate: 2,4,6-Tribromophenol         | 108.8          |           | 50-140       | %            | 13-SEP-19              |       |          |             |           |
| L2343122-4 MW103                        |                |           |              |              |                        |       |          |             |           |
| Sampled By: V PETERS on 05-SEP-19 @ 14: | 45             |           |              |              |                        |       |          |             |           |
| Matrix: WATER                           |                |           |              |              |                        | #1    |          |             |           |
|                                         |                |           |              |              |                        | ,     |          |             |           |
| Physical Tests                          | 440            |           | 0.0000       | C/           | 00.055.40              | *0.57 |          |             |           |
| Conductivity                            | 14.6           |           | 0.0030       | mS/cm        | 09-SEP-19              | *0.57 |          |             |           |
| pН                                      | 7.55           |           | 0.10         | pH units     | 09-SEP-19              |       |          |             |           |

<sup>\*\*</sup> 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:



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13-SEP-19 12:41 (MT)

| E751900.A.CS.EV.19.19-01                        | ANALI   | IIOAL     | GOID   |              | IXEI OIV  | \ I   | Page 10<br>13-SEP-19 1 |  |
|-------------------------------------------------|---------|-----------|--------|--------------|-----------|-------|------------------------|--|
| Sample Details<br>Grouping Analyte              | Result  | Qualifier | D.L.   | Units        | Analyzed  |       | Guideline Limits       |  |
| _2343122-4 MW103                                |         |           |        |              |           |       |                        |  |
| Sampled By: V PETERS on 05-SEP-19 @ 14          | 4:45    |           |        |              |           |       |                        |  |
| Matrix: WATER                                   |         |           |        |              |           | #1    |                        |  |
| Anions and Nutrients                            |         |           |        |              |           |       |                        |  |
|                                                 | 6590    | DILIC     | 10     |              | 10 CED 10 |       |                        |  |
| Chloride (CI)  Cyanides                         | 6580    | DLHC      | 10     | mg/L         | 10-SEP-19 |       |                        |  |
| •                                               |         |           | 0.0    |              | 40.050.40 |       |                        |  |
| Cyanide, Weak Acid Diss  Metals                 | <2.0    |           | 2.0    | ug/L         | 10-SEP-19 |       |                        |  |
| Sodium Adsorption Ratio                         | <130    | SAR:DL    | 130    | SAR          | 10-SEP-19 | **2.4 |                        |  |
| Dissolved Metals                                |         |           |        |              |           |       |                        |  |
| Dissolved Mercury Filtration Location           | FIELD   |           |        | No Unit      | 09-SEP-19 |       |                        |  |
| Dissolved Metals Filtration Location            | FIELD   |           |        | No Unit      | 09-SEP-19 |       |                        |  |
| Antimony (Sb)-Dissolved                         | <1.0    | DLHC      | 1.0    | ug/L         | 09-SEP-19 |       |                        |  |
| Arsenic (As)-Dissolved                          | <1.0    | DLHC      | 1.0    | ug/L         | 09-SEP-19 |       |                        |  |
| Barium (Ba)-Dissolved                           | 406     | DLHC      | 1.0    | ug/L         | 09-SEP-19 |       |                        |  |
| Beryllium (Be)-Dissolved                        | <1.0    | DLHC      | 1.0    | ug/L         | 09-SEP-19 |       |                        |  |
| Boron (B)-Dissolved                             | <100    | DLHC      | 100    | ug/L         | 09-SEP-19 |       |                        |  |
| Cadmium (Cd)-Dissolved                          | 0.131   | DLHC      | 0.050  | ug/L         | 09-SEP-19 |       |                        |  |
| Chromium (Cr)-Dissolved                         | <5.0    | DLHC      | 5.0    | ug/L         | 09-SEP-19 |       |                        |  |
| Cobalt (Co)-Dissolved                           | <1.0    | DLHC      | 1.0    | ug/L         | 09-SEP-19 |       |                        |  |
| Copper (Cu)-Dissolved                           | 4.4     | DLHC      | 2.0    | ug/L         | 09-SEP-19 |       |                        |  |
| Lead (Pb)-Dissolved                             | <0.50   | DLHC      | 0.50   | ug/L         | 09-SEP-19 |       |                        |  |
| Mercury (Hg)-Dissolved                          | <0.0050 |           | 0.0050 | ug/L         | 10-SEP-19 |       |                        |  |
| Molybdenum (Mo)-Dissolved                       | 4.93    | DLHC      | 0.50   | ug/L         | 09-SEP-19 |       |                        |  |
| Nickel (Ni)-Dissolved                           | <5.0    | DLHC      | 5.0    | ug/L         | 09-SEP-19 |       |                        |  |
| Selenium (Se)-Dissolved                         | 0.57    | DLHC      | 0.50   | ug/L         | 09-SEP-19 |       |                        |  |
| Silver (Ag)-Dissolved                           | <0.50   | DLHC      | 0.50   | ug/L         | 09-SEP-19 |       |                        |  |
| Sodium (Na)-Dissolved                           | 3140000 | DLHC      | 5000   | ug/L         | 10-SEP-19 |       |                        |  |
| Thallium (TI)-Dissolved                         | 0.12    | DLHC      | 0.10   | ug/L         | 09-SEP-19 |       |                        |  |
| Uranium (U)-Dissolved                           | 4.76    | DLHC      | 0.10   | ug/L         | 09-SEP-19 |       |                        |  |
| Vanadium (V)-Dissolved                          | <5.0    | DLHC      | 5.0    | ug/L         | 09-SEP-19 |       |                        |  |
| Zinc (Zn)-Dissolved                             | <10     | DLHC      | 10     | ug/L         | 09-SEP-19 |       |                        |  |
| Speciated Metals                                |         |           |        |              |           |       |                        |  |
| Chromium, Hexavalent Volatile Organic Compounds | 0.56    |           | 0.50   | ug/L         | 10-SEP-19 |       |                        |  |
| Acetone                                         | <30     |           | 30     | ug/L         | 11-SEP-19 |       |                        |  |
| Benzene                                         | <0.50   |           | 0.50   | ug/L<br>ug/L | 11-SEP-19 |       |                        |  |
| Bromodichloromethane                            | <2.0    |           | 2.0    | ug/L<br>ug/L | 11-SEP-19 |       |                        |  |
| Bromoform                                       | <5.0    |           | 5.0    | ug/L<br>ug/L | 11-SEP-19 |       |                        |  |
| Bromomethane                                    | <0.50   |           | 0.50   | ug/L         | 11-SEP-19 |       |                        |  |
| Carbon tetrachloride                            | <0.20   |           | 0.20   | ug/L         | 11-SEP-19 |       |                        |  |
| Chlorobenzene                                   | <0.50   |           | 0.50   | ug/L         | 11-SEP-19 |       |                        |  |
| Dibromochloromethane                            | <2.0    |           | 2.0    | ug/L         | 11-SEP-19 |       |                        |  |
| Chloroform                                      | <1.0    |           | 1.0    | ug/L         | 11-SEP-19 |       |                        |  |
| 1,2-Dibromoethane                               | <0.20   |           | 0.20   | ug/L         | 11-SEP-19 |       |                        |  |
| 1,2-Dichlorobenzene                             | <0.50   |           | 0.50   | ug/L         | 11-SEP-19 |       |                        |  |
| 1,3-Dichlorobenzene                             | <0.50   |           | 0.50   | ug/L         | 11-SEP-19 |       |                        |  |
| 1,4-Dichlorobenzene                             | <0.50   |           | 0.50   | ug/L         | 11-SEP-19 |       |                        |  |
| Dichlorodifluoromethane                         | <2.0    |           | 2.0    | ug/L         | 11-SEP-19 |       |                        |  |
| 1,1-Dichloroethane                              | <0.50   |           | 0.50   | ug/L         | 11-SEP-19 |       |                        |  |
| 1,2-Dichloroethane                              | <0.50   |           | 0.50   | ug/L         | 11-SEP-19 |       |                        |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| E751900.A.CS.EV.19.19-01              | AINALI | IICAL     | GUID   | LLINL   | KLFOR     | Page 11 of 40<br>13-SEP-19 12:41 (M |
|---------------------------------------|--------|-----------|--------|---------|-----------|-------------------------------------|
| Sample Details Grouping Analyte       | Result | Qualifier | D.L.   | Units   | Analyzed  | Guideline Limits                    |
| ,                                     |        | Qualifici |        |         | Allaly2eu | Guideline Limits                    |
| .2343122-4 MW103                      |        |           |        |         |           |                                     |
| Sampled By: V PETERS on 05-SEP-19 @ 1 | 14:45  |           |        |         |           | #1                                  |
| Matrix: WATER                         |        |           |        |         |           | #1                                  |
| Volatile Organic Compounds            |        |           |        |         |           |                                     |
| 1,1-Dichloroethylene                  | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| cis-1,2-Dichloroethylene              | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| trans-1,2-Dichloroethylene            | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| Methylene Chloride                    | <5.0   |           | 5.0    | ug/L    | 11-SEP-19 |                                     |
| 1,2-Dichloropropane                   | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| cis-1,3-Dichloropropene               | < 0.30 |           | 0.30   | ug/L    | 11-SEP-19 |                                     |
| trans-1,3-Dichloropropene             | < 0.30 |           | 0.30   | ug/L    | 11-SEP-19 |                                     |
| 1,3-Dichloropropene (cis & trans)     | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| Ethylbenzene                          | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| n-Hexane                              | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| Methyl Ethyl Ketone                   | <20    |           | 20     | ug/L    | 11-SEP-19 |                                     |
| Methyl Isobutyl Ketone                | <20    |           | 20     | ug/L    | 11-SEP-19 |                                     |
| MTBE                                  | <2.0   |           | 2.0    | ug/L    | 11-SEP-19 |                                     |
| Styrene                               | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| 1,1,1,2-Tetrachloroethane             | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| 1,1,2,2-Tetrachloroethane             | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| Tetrachloroethylene                   | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| Toluene                               | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| 1,1,1-Trichloroethane                 | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| 1,1,2-Trichloroethane                 | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| Trichloroethylene                     | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| Trichlorofluoromethane                | <5.0   |           | 5.0    | ug/L    | 11-SEP-19 |                                     |
| Vinyl chloride                        | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| o-Xylene                              | <0.30  |           | 0.30   | ug/L    | 11-SEP-19 |                                     |
| m+p-Xylenes                           | <0.40  |           | 0.40   | ug/L    | 11-SEP-19 |                                     |
| Xylenes (Total)                       | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                                     |
| Surrogate: 4-Bromofluorobenzene       | 92.3   |           | 70-130 | %       | 11-SEP-19 |                                     |
| Surrogate: 1,4-Difluorobenzene        | 96.7   |           | 70-130 | %       | 11-SEP-19 |                                     |
| Hydrocarbons                          |        |           |        |         |           |                                     |
| F1 (C6-C10)                           | <25    |           | 25     | ug/L    | 11-SEP-19 |                                     |
| F1-BTEX                               | <25    |           | 25     | ug/L    | 11-SEP-19 |                                     |
| F2 (C10-C16)                          | <100   |           | 100    | ug/L    | 10-SEP-19 |                                     |
| F2-Naphth                             | <100   |           | 100    | ug/L    | 11-SEP-19 |                                     |
| F3 (C16-C34)                          | <250   |           | 250    | ug/L    | 10-SEP-19 |                                     |
| F3-PAH                                | <250   |           | 250    | ug/L    | 11-SEP-19 |                                     |
| F4 (C34-C50)                          | <250   |           | 250    | ug/L    | 10-SEP-19 |                                     |
| Total Hydrocarbons (C6-C50)           | <370   |           | 370    | ug/L    | 11-SEP-19 |                                     |
| Chrom. to baseline at nC50            | YES    |           |        | No Unit | 10-SEP-19 |                                     |
| Surrogate: 2-Bromobenzotrifluoride    | 92.1   |           | 60-140 | %       | 10-SEP-19 |                                     |
| Surrogate: 3,4-Dichlorotoluene        | 93.3   |           | 60-140 | %       | 11-SEP-19 |                                     |
| Polycyclic Aromatic Hydrocarbons      |        |           |        |         |           |                                     |
| Acenaphthene                          | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                                     |
| Acenaphthylene                        | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                                     |
| Anthracene                            | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                                     |
| Benzo(a)anthracene                    | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                                     |
| Benzo(a)pyrene                        | <0.010 |           | 0.010  | ug/L    | 11-SEP-19 |                                     |
| Benzo(b)fluoranthene                  | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                                     |

Benzo(g,h,i)perylene ug/L Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<0.020

0.020

11-SEP-19

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01             | ANALII        | ICAL      | GOID   | LLINL    | KLFOR     | N I   | Page 12<br>13-SEP-19 12 |  |
|---------------------------------------|---------------|-----------|--------|----------|-----------|-------|-------------------------|--|
| Sample Details Grouping Analyte       | Result        | Qualifier | D.L.   | Units    | Analyzed  |       | Guideline Limits        |  |
| , ,                                   |               | Qualifier |        |          | Analyzeu  |       | Guideline Limits        |  |
| L2343122-4 MW103                      |               |           |        |          |           |       |                         |  |
| Sampled By: V PETERS on 05-SEP-19 @ 1 | 4: <b>4</b> 5 |           |        |          |           | #4    |                         |  |
| Matrix: WATER                         |               |           |        |          |           | #1    |                         |  |
| Polycyclic Aromatic Hydrocarbons      |               |           |        |          |           |       |                         |  |
| Benzo(k)fluoranthene                  | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| Chrysene                              | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| Dibenzo(ah)anthracene                 | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| Fluoranthene                          | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| Fluorene                              | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| Indeno(1,2,3-cd)pyrene                | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| 1+2-Methylnaphthalenes                | <0.028        |           | 0.028  | ug/L     | 11-SEP-19 |       |                         |  |
| 1-Methylnaphthalene                   | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| 2-Methylnaphthalene                   | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| Naphthalene                           | <0.050        |           | 0.050  | ug/L     | 11-SEP-19 |       |                         |  |
| Phenanthrene                          | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| Pyrene                                | <0.020        |           | 0.020  | ug/L     | 11-SEP-19 |       |                         |  |
| Surrogate: d10-Acenaphthene           | 96.1          |           | 60-140 | %        | 11-SEP-19 |       |                         |  |
| Surrogate: d12-Chrysene               | 100.0         |           | 60-140 | %        | 11-SEP-19 |       |                         |  |
| Surrogate: d8-Naphthalene             | 101.7         |           | 60-140 | %        | 11-SEP-19 |       |                         |  |
| Surrogate: d10-Phenanthrene           | 97.5          |           | 60-140 | %        | 11-SEP-19 |       |                         |  |
| L2343122-5 MW101                      |               |           |        |          |           |       |                         |  |
| Sampled By: V PETERS on 05-SEP-19 @ 1 | 6:50          |           |        |          |           |       |                         |  |
|                                       | 0.50          |           |        |          |           | #1    |                         |  |
| Matrix: WATER                         |               |           |        |          |           |       |                         |  |
| Physical Tests                        |               |           |        |          |           |       |                         |  |
| Conductivity                          | 4.18          |           | 0.0030 | mS/cm    | 09-SEP-19 | *0.57 |                         |  |
| рН                                    | 7.86          |           | 0.10   | pH units | 09-SEP-19 |       |                         |  |
| Anions and Nutrients                  |               |           |        |          |           |       |                         |  |
| Chloride (CI)                         | 1380          | DLHC      | 10     | mg/L     | 10-SEP-19 |       |                         |  |
| Cyanides                              |               |           |        |          |           |       |                         |  |
| Cyanide, Weak Acid Diss               | <2.0          |           | 2.0    | ug/L     | 10-SEP-19 |       |                         |  |
| Metals                                |               |           |        |          |           |       |                         |  |
| Sodium Adsorption Ratio               | 21.8          | SAR:M     | 0.10   | SAR      | 10-SEP-19 | *2.4  |                         |  |
| Dissolved Metals                      |               |           |        |          |           |       |                         |  |
| Dissolved Mercury Filtration Location | FIELD         |           |        | No Unit  | 09-SEP-19 |       |                         |  |
| Dissolved Metals Filtration Location  | FIELD         |           |        | No Unit  | 09-SEP-19 |       |                         |  |
| Antimony (Sb)-Dissolved               | <1.0          | DLHC      | 1.0    | ug/L     | 09-SEP-19 |       |                         |  |
| Arsenic (As)-Dissolved                | <1.0          | DLHC      | 1.0    | ug/L     | 09-SEP-19 |       |                         |  |
| Barium (Ba)-Dissolved                 | 87.1          | DLHC      | 1.0    | ug/L     | 09-SEP-19 |       |                         |  |
| Beryllium (Be)-Dissolved              | <1.0          | DLHC      | 1.0    | ug/L     | 09-SEP-19 |       |                         |  |
| Boron (B)-Dissolved                   | <100          | DLHC      | 100    | ug/L     | 09-SEP-19 |       |                         |  |
| Cadmium (Cd)-Dissolved                | <0.050        | DLHC      | 0.050  | ug/L     | 09-SEP-19 |       |                         |  |
| Chromium (Cr)-Dissolved               | <5.0          | DLHC      | 5.0    | ug/L     | 09-SEP-19 |       |                         |  |
| Cobalt (Co)-Dissolved                 | <1.0          | DLHC      | 1.0    | ug/L     | 09-SEP-19 |       |                         |  |
| Copper (Cu)-Dissolved                 | 2.4           | DLHC      | 2.0    | ug/L     | 09-SEP-19 |       |                         |  |
| Lead (Pb)-Dissolved                   | <0.50         | DLHC      | 0.50   | ug/L     | 09-SEP-19 |       |                         |  |
| Mercury (Hg)-Dissolved                | <0.0050       |           | 0.0050 | ug/L     | 10-SEP-19 |       |                         |  |
| Molybdenum (Mo)-Dissolved             | 6.26          | DLHC      | 0.50   | ug/L     | 09-SEP-19 |       |                         |  |
| Nickel (Ni)-Dissolved                 | <5.0          | DLHC      | 5.0    | ug/L     | 09-SEP-19 |       |                         |  |
| Selenium (Se)-Dissolved               | 4.66          | DLHC      | 0.50   | ug/L     | 09-SEP-19 |       |                         |  |
| Silver (Ag)-Dissolved                 | <0.50         | DLHC      | 0.50   | ug/L     | 09-SEP-19 |       |                         |  |
| ( 0,                                  | 1             |           |        | · y =    |           |       |                         |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| Grouping Analyte Result Qualifier D.L. Units Analyzed Guideline Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CE751900.A.CS.EV.19.19-01              |        |           |      |       |           |    | 13-SEP-19 12:41 (MT) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------|-----------|------|-------|-----------|----|----------------------|
| Sampled By: V PETERS on 05-SEP-19 © 16-50   Matrix: WATER   Sodium (Na)-Dissolved Matals   Sodium (Na)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Sample Details Grouping Analyte        | Result | Qualifier | D.L. | Units | Analyzed  |    | Guideline Limits     |
| Matrix   WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | L2343122-5 MW101                       |        |           |      |       |           |    |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sampled By: V PETERS on 05-SEP-19 @ 16 | :50    |           |      |       |           |    |                      |
| Sodium (Na)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Matrix: WATER                          |        |           |      |       |           | #1 |                      |
| Sodium (Na)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Dissolved Metals                       |        |           |      |       |           |    |                      |
| Thalium (TI)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                        | 725000 | DILLIC    | 500  | /!    | 00 SED 10 |    |                      |
| Uranium (U)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | , ,                                    |        |           |      | _     |           |    |                      |
| Vanadium (V)-Dissolved   2.10   DLHC   5.0   Ug/L   09-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                        | 1      |           | 1    | _     |           |    |                      |
| Speciated Metals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | • /                                    |        |           |      | _     |           |    |                      |
| Speciated Metals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | * *                                    |        | 1         |      | _     |           |    |                      |
| Chromium, Hexavalent         0.55         0.50         ug/L         10-SEP-19           Volatile Organic Compounds         430         30         ug/L         11-SEP-19           Acetone         430         30         ug/L         11-SEP-19           Bromodichiormethane         4.050         0.50         ug/L         11-SEP-19           Bromotorm         45.0         5.0         ug/L         11-SEP-19           Bromothromethane         4.050         0.50         ug/L         11-SEP-19           Carbon tetrachloride         4.050         0.50         ug/L         11-SEP-19           Chlorotenzene         4.050         0.50         ug/L         11-SEP-19           Dibromochloromethane         4.9         2.0         ug/L         11-SEP-19           1,2-Dibromoethane         4.0         2.0         0.00         ug/L         11-SEP-19           1,2-Dichlorobenzene         4.050         0.50         ug/L         11-SEP-19           1,3-Dichlorobenzene         4.050         0.50         ug/L         11-SEP-19           1,1-Dichloroethane         4.0         4.0         0.0         ug/L         11-SEP-19           1,1-Dichloroethane         4.0         0.50 |                                        | <10    | DLHC      | 10   | ug/L  | 09-SEP-19 |    |                      |
| Volatile Organic Compounds         30         30         ug/L         11-SEP-19           Benzene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |        |           |      |       |           |    |                      |
| Acetone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                        | 0.55   |           | 0.50 | ug/L  | 10-SEP-19 |    |                      |
| Benzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                        |        |           |      |       |           |    |                      |
| Bromodichloromethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                        |        |           |      | _     |           |    |                      |
| Bromform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        | 1      |           |      |       |           |    |                      |
| Bromomethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                        |        |           | 1    | _     |           |    |                      |
| Carbon tetrachloride         < 0.20         0.20         ug/L         11-SEP-19           Chlorobenzene         < 0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                        |        |           | 1    | _     |           |    |                      |
| Chlorobenzene         <0.50         0.50         ug/L         11-SEP-19           Dibromochloromethane         4.9         2.0         ug/L         11-SEP-19           Chloroform         12.0         1.0         ug/L         11-SEP-19           1,2-Dibromoethane         <0.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Bromomethane                           | 1      |           |      | ug/L  |           |    |                      |
| Dibromochloromethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Carbon tetrachloride                   | <0.20  |           | 1    | _     |           |    |                      |
| Chloroform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Chlorobenzene                          | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| 1,2-Dibromoethane         <0.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Dibromochloromethane                   | 4.9    |           | 2.0  | ug/L  | 11-SEP-19 |    |                      |
| 1,2-Dichlorobenzene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Chloroform                             | 12.0   |           | 1.0  | ug/L  | 11-SEP-19 |    |                      |
| 1,3-Dichlorobenzene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1,2-Dibromoethane                      | <0.20  |           | 0.20 | ug/L  | 11-SEP-19 |    |                      |
| 1,4-Dichlorobenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,2-Dichlorobenzene                    | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| Dichlorodifluoromethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1,3-Dichlorobenzene                    | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| 1,1-Dichloroethane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1,4-Dichlorobenzene                    | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| 1,2-Dichloroethane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Dichlorodifluoromethane                | <2.0   |           | 2.0  | ug/L  | 11-SEP-19 |    |                      |
| 1,1-Dichloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,1-Dichloroethane                     | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| cis-1,2-Dichloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1,2-Dichloroethane                     | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| trans-1,2-Dichloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,1-Dichloroethylene                   | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| Methylene Chloride         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | cis-1,2-Dichloroethylene               | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| 1,2-Dichloropropane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | trans-1,2-Dichloroethylene             | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| cis-1,3-Dichloropropene         <0.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Methylene Chloride                     | <5.0   |           | 5.0  | ug/L  | 11-SEP-19 |    |                      |
| trans-1,3-Dichloropropene       <0.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1,2-Dichloropropane                    | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| 1,3-Dichloropropene (cis & trans)       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | cis-1,3-Dichloropropene                | <0.30  |           | 0.30 | ug/L  | 11-SEP-19 |    |                      |
| Ethylbenzene       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | trans-1,3-Dichloropropene              | <0.30  |           | 0.30 | ug/L  | 11-SEP-19 |    |                      |
| n-Hexane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,3-Dichloropropene (cis & trans)      | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| Methyl Ethyl Ketone         <20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Ethylbenzene                           | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| Methyl Isobutyl Ketone         <20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | n-Hexane                               | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| MTBE       <2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Methyl Ethyl Ketone                    | <20    |           | 20   | ug/L  | 11-SEP-19 |    |                      |
| Styrene         <0.50         0.50         ug/L         11-SEP-19           1,1,1,2-Tetrachloroethane         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Methyl Isobutyl Ketone                 | <20    |           | 20   | ug/L  | 11-SEP-19 |    |                      |
| 1,1,1,2-Tetrachloroethane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | MTBE                                   | <2.0   |           | 2.0  | ug/L  | 11-SEP-19 |    |                      |
| 1,1,2,2-Tetrachloroethane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Styrene                                | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| Tetrachloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                        | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| Toluene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                        | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| 1,1,1-Trichloroethane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Tetrachloroethylene                    | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| 1,1,2-Trichloroethane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                        | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| Trichloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1,1,1-Trichloroethane                  | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
| Trichlorofluoromethane         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,1,2-Trichloroethane                  | <0.50  |           | 1    | ug/L  | 11-SEP-19 |    |                      |
| Vinyl chloride         <0.50         0.50         ug/L         11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Trichloroethylene                      | <0.50  |           |      | ug/L  | 11-SEP-19 |    |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Trichlorofluoromethane                 | <5.0   |           | 5.0  | ug/L  | 11-SEP-19 |    |                      |
| o-Xylene <0.30   0.30   ug/L   11-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Vinyl chloride                         | <0.50  |           | 0.50 | ug/L  | 11-SEP-19 |    |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | o-Xylene                               | <0.30  |           | 0.30 | ug/L  | 11-SEP-19 |    |                      |

<sup>\*\*</sup> 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:



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13-SEP-19 12:41 (MT)

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|--------------------------------------------------------|--------------------------------------|-----------|----------------|-----------------|------------------------|-------|------------------|--|
| Sample Details<br>Grouping Analyte                     | Result                               | Qualifier | D.L.           | Units           | Analyzed               |       | Guideline Limits |  |
| .2343122-5 MW101                                       |                                      |           |                |                 |                        |       |                  |  |
| Sampled By: V PETERS on 05-SEP-19 @ 1                  | 16:50                                |           |                |                 |                        |       |                  |  |
| Matrix: WATER                                          |                                      |           |                |                 |                        | #1    |                  |  |
| Volatile Organic Compounds                             |                                      |           |                |                 |                        |       |                  |  |
| m+p-Xylenes                                            | <0.40                                |           | 0.40           | ug/L            | 11-SEP-19              |       |                  |  |
|                                                        | <0.40                                |           | 0.40           |                 | 11-SEP-19              |       |                  |  |
| Xylenes (Total) Surrogate: 4-Bromofluorobenzene        | 92.5                                 |           | 70-130         | ug/L<br>%       | 11-SEP-19              |       |                  |  |
| Surrogate: 1,4-Difluorobenzene                         | 96.4                                 |           | 70-130         | %               | 11-SEP-19              |       |                  |  |
| Hydrocarbons                                           | 90.4                                 |           | 70-130         | /0              | 11-325-19              |       |                  |  |
| •                                                      | -25                                  |           | 0.5            | /1              | 44 CED 40              |       |                  |  |
| F1 (C6-C10)<br>F1-BTEX                                 | <25<br><25                           |           | 25<br>25       | ug/L            | 11-SEP-19<br>11-SEP-19 |       |                  |  |
|                                                        |                                      |           |                | ug/L            |                        |       |                  |  |
| F2 (C10-C16)                                           | <100<br><100                         |           | 100<br>100     | ug/L            | 10-SEP-19              |       |                  |  |
| F2-Naphth                                              |                                      |           |                | ug/L            | 11-SEP-19              |       |                  |  |
| F3 (C16-C34)                                           | <250                                 |           | 250            | ug/L            | 10-SEP-19              |       |                  |  |
| F3-PAH                                                 | <250                                 |           | 250            | ug/L            | 11-SEP-19<br>10-SEP-19 |       |                  |  |
| F4 (C34-C50)                                           | <250<br><370                         |           | 250<br>370     | ug/L            | 10-SEP-19<br>11-SEP-19 |       |                  |  |
| Total Hydrocarbons (C6-C50) Chrom. to baseline at nC50 | YES                                  |           | 370            | ug/L<br>No Unit | 10-SEP-19              |       |                  |  |
| Surrogate: 2-Bromobenzotrifluoride                     | 87.5                                 |           | 60-140         | %               | 10-SEP-19<br>10-SEP-19 |       |                  |  |
| Surrogate: 3,4-Dichlorotoluene                         | 92.9                                 |           | 60-140         | %               | 11-SEP-19              |       |                  |  |
| Polycyclic Aromatic Hydrocarbons                       | 92.9                                 |           | 00-140         | 70              | 11-3EF-19              |       |                  |  |
|                                                        |                                      |           |                | ,,              |                        |       |                  |  |
| Acenaphthene                                           | <0.020                               |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Acenaphthylene                                         | <0.020                               |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Anthracene                                             | <0.020                               |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Benzo(a)anthracene                                     | <0.020                               |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Benzo(a)pyrene                                         | <0.010                               |           | 0.010          | ug/L            | 11-SEP-19              |       |                  |  |
| Benzo(b)fluoranthene                                   | <0.020                               |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Benzo(g,h,i)perylene                                   | <0.020                               |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Benzo(k)fluoranthene                                   | <0.020                               |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Chrysene                                               | <0.020                               |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Dibenzo(ah)anthracene<br>Fluoranthene                  | <0.020<br><0.020                     |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
|                                                        | <0.020                               |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Fluorene                                               |                                      |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |
| Indeno(1,2,3-cd)pyrene 1+2-Methylnaphthalenes          | <0.020<br><0.028                     |           | 0.020<br>0.028 | ug/L            | 11-SEP-19<br>11-SEP-19 |       |                  |  |
| 1-Methylnaphthalene                                    | <0.028                               |           | 0.028          | ug/L            | 11-SEP-19<br>11-SEP-19 |       |                  |  |
| 2-Methylnaphthalene                                    | <0.020                               |           | 0.020          | ug/L<br>ug/L    | 11-SEP-19              |       |                  |  |
| Naphthalene                                            | <0.020                               |           | 0.020          | ug/L<br>ug/L    | 11-SEP-19              |       |                  |  |
| Phenanthrene                                           | <0.030                               |           | 0.030          | ug/L<br>ug/L    | 11-SEP-19              |       |                  |  |
| Pyrene                                                 | <0.020                               |           | 0.020          | -               | 11-SEP-19              |       |                  |  |
| Surrogate: d10-Acenaphthene                            | 101.2                                |           | 60-140         | ug/L<br>%       | 11-SEP-19              |       |                  |  |
| Surrogate: d12-Chrysene                                | 101.2                                |           | 60-140         | %<br>%          | 11-SEP-19              |       |                  |  |
| Surrogate: d12-Crifyserie Surrogate: d8-Naphthalene    | 101.9                                |           | 60-140         | %               | 11-SEP-19              |       |                  |  |
| Surrogate: d10-Phenanthrene                            | 100.2                                |           | 60-140         | %<br>%          | 11-SEP-19              |       |                  |  |
|                                                        | 100.7                                |           | 00 140         | /0              | 11 021 -19             |       |                  |  |
| 2343122-6 MW100                                        |                                      |           |                |                 |                        |       |                  |  |
| ampled By: V PETERS on 06-SEP-19 @ 0                   | 07:50                                |           |                |                 |                        |       |                  |  |
| Matrix: WATER                                          |                                      |           |                |                 |                        | #1    |                  |  |
| Physical Tests                                         |                                      |           |                |                 |                        |       |                  |  |
| Conductivity                                           | 20.1                                 |           | 0.0030         | mS/cm           | 09-SEP-19              | *0.57 |                  |  |
| · ·                                                    |                                      |           |                |                 | 09-SEP-19<br>09-SEP-19 | 0.57  |                  |  |
| pH                                                     | 7.77                                 |           | 0.10           | pH units        | 09-SEP-19              |       |                  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| E751900.A.CS.EV.19.19-01                        | ANALTI        | ICAL         | שוטט         | ELINE        | KEPUK                  | <b>. I</b> | Page 15 of 4<br>13-SEP-19 12:41 (M |  |  |
|-------------------------------------------------|---------------|--------------|--------------|--------------|------------------------|------------|------------------------------------|--|--|
| Sample Details<br>Grouping Analyte              | Result        | Qualifier    | D.L.         | Units        | Analyzed               | Gı         | Guideline Limits                   |  |  |
| 1 0                                             | Result        | Qualifier    | D.L.<br>     |              | Analyzeu               | G          | udeline Limits                     |  |  |
| .2343122-6 MW100                                |               |              |              |              |                        |            |                                    |  |  |
| Sampled By: V PETERS on 06-SEP-19 @             | 07:50         |              |              |              |                        | #1         |                                    |  |  |
| Matrix: WATER                                   |               |              |              |              |                        | #1         |                                    |  |  |
| Anions and Nutrients                            |               |              |              |              |                        |            |                                    |  |  |
| Chloride (CI)                                   | 6970          | DLHC         | 50           | mg/L         | 10-SEP-19              |            |                                    |  |  |
| Cyanides                                        | 0370          | DEITO        | 30           | IIIg/L       | 10-021-13              |            |                                    |  |  |
| Cyanide, Weak Acid Diss                         | 2.8           |              | 2.0          | ua/l         | 10-SEP-19              |            |                                    |  |  |
| Metals                                          | 2.0           |              | 2.0          | ug/L         | 10-SEF-19              |            |                                    |  |  |
| Sodium Adsorption Ratio                         | Incalculable  | CABINC       | 0.10         | SAR          | 10-SEP-19              |            |                                    |  |  |
| Dissolved Metals                                | incalculable  | SAK.INC      | 0.10         | SAR          | 10-SEF-19              |            |                                    |  |  |
|                                                 | EIEL D        |              |              | NI- II-2     | 00.050.40              |            |                                    |  |  |
| Dissolved Mercury Filtration Location           | FIELD         |              |              | No Unit      | 09-SEP-19              |            |                                    |  |  |
| Dissolved Metals Filtration Location            | FIELD         | DILLIC       | 40           | No Unit      | 09-SEP-19<br>10-SEP-19 |            |                                    |  |  |
| Antimony (Sb)-Dissolved                         | <10           | DLHC         | 10           | ug/L         |                        |            |                                    |  |  |
| Arsenic (As)-Dissolved                          | <10           | DLHC         | 10           | ug/L         | 10-SEP-19              |            |                                    |  |  |
| Barium (Ba)-Dissolved                           | 356<br><10    | DLHC<br>DLHC | 10<br>10     | ug/L         | 10-SEP-19              |            |                                    |  |  |
| Beryllium (Be)-Dissolved                        |               | DLHC         |              | ug/L         | 10-SEP-19              |            |                                    |  |  |
| Boron (B)-Dissolved                             | <1000         | DLHC         | 1000<br>0.50 | ug/L         | 10-SEP-19              |            |                                    |  |  |
| Cadmium (Cd)-Dissolved                          | 1.10          | 1            |              | ug/L         | 10-SEP-19<br>10-SEP-19 |            |                                    |  |  |
| Chromium (Cr)-Dissolved                         | <50           | DLHC         | 50           | ug/L         |                        |            |                                    |  |  |
| Cobalt (Co)-Dissolved                           | <10<br><20    | DLHC<br>DLHC | 10           | ug/L         | 10-SEP-19              |            |                                    |  |  |
| Copper (Cu)-Dissolved                           | <5.0          |              | 20<br>5.0    | ug/L         | 10-SEP-19<br>10-SEP-19 |            |                                    |  |  |
| Lead (Pb)-Dissolved                             |               | DLHC         |              | ug/L         |                        |            |                                    |  |  |
| Mercury (Hg)-Dissolved                          | <0.0050       | DLHC         | 0.0050       | ug/L         | 10-SEP-19              |            |                                    |  |  |
| Molybdenum (Mo)-Dissolved Nickel (Ni)-Dissolved | <5.0<br><50   | DLHC         | 5.0<br>50    | ug/L         | 10-SEP-19<br>10-SEP-19 |            |                                    |  |  |
| Selenium (Se)-Dissolved                         | <5.0          | DLHC         | 5.0          | ug/L         | 10-SEP-19<br>10-SEP-19 |            |                                    |  |  |
| Silver (Ag)-Dissolved                           | <5.0<br><5.0  | DLHC         | 5.0          | ug/L         | 10-SEP-19<br>10-SEP-19 |            |                                    |  |  |
| Sodium (Na)-Dissolved                           | 4590000       | DLHC         | 5000         | ug/L<br>ug/L | 10-SEP-19              |            |                                    |  |  |
| Thallium (TI)-Dissolved                         | <1.0          | DLHC         | 1.0          | ug/L<br>ug/L | 10-SEP-19              |            |                                    |  |  |
| Uranium (U)-Dissolved                           | <1.0          | DLHC         | 1.0          | ug/L<br>ug/L | 10-SEP-19              |            |                                    |  |  |
| Vanadium (V)-Dissolved                          | <50           | DLHC         | 50           | ug/L         | 10-SEP-19              |            |                                    |  |  |
| Zinc (Zn)-Dissolved                             | <100          | DLHC         | 100          | ug/L         | 10-SEP-19              |            |                                    |  |  |
| Speciated Metals                                | <b>100</b>    | DEITO        | 100          | ug/L         | 10-021-13              |            |                                    |  |  |
| Chromium, Hexavalent                            | 3.87          |              | 0.50         | ug/L         | 10-SEP-19              |            |                                    |  |  |
| Volatile Organic Compounds                      | 3.07          |              | 0.50         | ug/L         | 10-3LF-19              |            |                                    |  |  |
|                                                 | 20            |              | 20           | /1           | 44 CED 40              |            |                                    |  |  |
| Acetone                                         | <30           |              | 30           | ug/L         | 11-SEP-19              |            |                                    |  |  |
| Benzene                                         | <0.50         |              | 0.50         | ug/L         | 11-SEP-19              |            |                                    |  |  |
| Bromodichloromethane                            | <2.0          |              | 2.0          | ug/L         | 11-SEP-19              |            |                                    |  |  |
| Bromoform                                       | <5.0          |              | 5.0          | ug/L         | 11-SEP-19              |            |                                    |  |  |
| Bromomethane                                    | <0.50         |              | 0.50         | ug/L         | 11-SEP-19              |            |                                    |  |  |
| Carbon tetrachloride                            | <0.20         |              | 0.20         | ug/L         | 11-SEP-19              |            |                                    |  |  |
| Chlorobenzene Dibromochloromethane              | <0.50         |              | 0.50         | ug/L         | 11-SEP-19              |            |                                    |  |  |
| Chloroform                                      | <2.0<br><1.0  |              | 2.0<br>1.0   | ug/L         | 11-SEP-19<br>11-SEP-19 |            |                                    |  |  |
| 1,2-Dibromoethane                               | <0.20         |              | 0.20         | ug/L         | 11-SEP-19<br>11-SEP-19 |            |                                    |  |  |
| 1,2-Dictrioemane 1,2-Dichlorobenzene            | <0.20         |              | 0.20         | ug/L         | 11-SEP-19<br>11-SEP-19 |            |                                    |  |  |
| 1,3-Dichlorobenzene                             | <0.50         |              | 0.50         | ug/L<br>ug/L | 11-SEP-19<br>11-SEP-19 |            |                                    |  |  |
| 1,4-Dichlorobenzene                             | <0.50         |              | 0.50         | _            | 11-SEP-19<br>11-SEP-19 |            |                                    |  |  |
| Dichlorodifluoromethane                         | <0.50<br><2.0 |              | 2.0          | ug/L<br>ug/L | 11-SEP-19<br>11-SEP-19 |            |                                    |  |  |
| 1,1-Dichloroethane                              | <0.50         |              | 0.50         | ug/L<br>ug/L | 11-SEP-19<br>11-SEP-19 |            |                                    |  |  |
| 1,1-Dichloroethane 1,2-Dichloroethane           | <0.50         |              | 0.50         | -            | 11-SEP-19<br>11-SEP-19 |            |                                    |  |  |
| 1,2 Didiliologularie                            | \0.50         |              | 0.50         | ug/L         | 11-066-19              |            |                                    |  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01             | Page 16 of 13-SEP-19 12:4 |           |           |                 |                        |                  |  |
|---------------------------------------|---------------------------|-----------|-----------|-----------------|------------------------|------------------|--|
| Sample Details                        | Daniell                   | 0         | <b>D.</b> | 11-26-          |                        |                  |  |
| Grouping Analyte                      | Result                    | Qualifier | D.L.      | Units           | Analyzed               | Guideline Limits |  |
| L2343122-6 MW100                      |                           |           |           |                 |                        |                  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 0 | 7:50                      |           |           |                 |                        |                  |  |
| Matrix: WATER                         |                           |           |           |                 |                        | #1               |  |
| Volatile Organic Compounds            |                           |           |           |                 |                        |                  |  |
| 1,1-Dichloroethylene                  | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19              |                  |  |
| cis-1,2-Dichloroethylene              | <0.50                     |           | 0.50      | ug/L<br>ug/L    | 11-SEP-19              |                  |  |
| trans-1,2-Dichloroethylene            | <0.50                     |           | 0.50      | ug/L<br>ug/L    | 11-SEP-19              |                  |  |
| Methylene Chloride                    | <5.0                      |           | 5.0       | ug/L<br>ug/L    | 11-SEP-19              |                  |  |
| 1,2-Dichloropropane                   | <0.50                     |           | 0.50      | ug/L<br>ug/L    | 11-SEP-19              |                  |  |
| cis-1,3-Dichloropropene               | <0.30                     |           | 0.30      | ug/L<br>ug/L    | 11-SEP-19              |                  |  |
| trans-1,3-Dichloropropene             | <0.30                     |           | 0.30      | ug/L<br>ug/L    | 11-SEP-19              |                  |  |
| 1,3-Dichloropropene (cis & trans)     | <0.50                     |           | 0.50      | _               | 11-SEP-19              |                  |  |
| Ethylbenzene                          | <0.50                     |           | 0.50      | ug/L<br>ug/L    | 11-SEP-19<br>11-SEP-19 |                  |  |
| n-Hexane                              | <0.50                     |           | 0.50      | _               | 11-SEP-19              |                  |  |
| n-нехапе<br>Methyl Ethyl Ketone       | <0.50<br><20              |           | 20        | ug/L            | 11-SEP-19<br>11-SEP-19 |                  |  |
| Methyl Isobutyl Ketone                | <20                       |           | 20        | ug/L            | 11-SEP-19<br>11-SEP-19 |                  |  |
| MTBE                                  | <2.0                      |           | 2.0       | ug/L            |                        |                  |  |
|                                       | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19<br>11-SEP-19 |                  |  |
| Styrene                               |                           |           |           | ug/L            | 11-SEP-19<br>11-SEP-19 |                  |  |
| 1,1,1,2-Tetrachloroethane             | <0.50                     |           | 0.50      | ug/L            |                        |                  |  |
| 1,1,2,2-Tetrachloroethane             | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19              |                  |  |
| Tetrachloroethylene                   | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19              |                  |  |
| Toluene                               | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19              |                  |  |
| 1,1,1-Trichloroethane                 | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19              |                  |  |
| 1,1,2-Trichloroethane                 | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19              |                  |  |
| Trichloroethylene                     | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19              |                  |  |
| Trichlorofluoromethane                | <5.0                      |           | 5.0       | ug/L            | 11-SEP-19              |                  |  |
| Vinyl chloride                        | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19              |                  |  |
| o-Xylene                              | <0.30                     |           | 0.30      | ug/L            | 11-SEP-19              |                  |  |
| m+p-Xylenes                           | <0.40                     |           | 0.40      | ug/L            | 11-SEP-19              |                  |  |
| Xylenes (Total)                       | <0.50                     |           | 0.50      | ug/L            | 11-SEP-19              |                  |  |
| Surrogate: 4-Bromofluorobenzene       | 92.5                      |           | 70-130    | %               | 11-SEP-19              |                  |  |
| Surrogate: 1,4-Difluorobenzene        | 96.3                      |           | 70-130    | %               | 11-SEP-19              |                  |  |
| Hydrocarbons                          |                           |           |           |                 |                        |                  |  |
| F1 (C6-C10)                           | <25                       |           | 25        | ug/L            | 11-SEP-19              |                  |  |
| F1-BTEX                               | <25                       |           | 25        | ug/L            | 11-SEP-19              |                  |  |
| F2 (C10-C16)                          | <100                      |           | 100       | ug/L            | 10-SEP-19              |                  |  |
| F2-Naphth                             | <100                      |           | 100       | ug/L            | 11-SEP-19              |                  |  |
| F3 (C16-C34)                          | <250                      |           | 250       | ug/L            | 10-SEP-19              |                  |  |
| F3-PAH                                | <250                      |           | 250       | ug/L            | 11-SEP-19              |                  |  |
| F4 (C34-C50)                          | <250                      |           | 250       | ug/L            | 10-SEP-19              |                  |  |
| Total Hydrocarbons (C6-C50)           | <370                      |           | 370       | ug/L            | 11-SEP-19              |                  |  |
| Chrom. to baseline at nC50            | YES                       |           |           | No Unit         | 10-SEP-19              |                  |  |
| Surrogate: 2-Bromobenzotrifluoride    | 86.7                      |           | 60-140    | %               | 10-SEP-19              |                  |  |
| Surrogate: 3,4-Dichlorotoluene        | 92.9                      |           | 60-140    | %               | 11-SEP-19              |                  |  |
| Polycyclic Aromatic Hydrocarbons      |                           |           |           |                 |                        |                  |  |
| Acenaphthene                          | <0.020                    |           | 0.020     | ug/L            | 11-SEP-19              |                  |  |
| Acenaphthylene                        | <0.020                    |           | 0.020     | ug/L            | 11-SEP-19              |                  |  |
| Anthracene                            | <0.020                    |           | 0.020     | ug/L            | 11-SEP-19              |                  |  |
| Benzo(a)anthracene                    | <0.020                    |           | 0.020     | ug/L            | 11-SEP-19              |                  |  |
| Benzo(a)pyrene                        | <0.010                    |           | 0.010     | ug/L            | 11-SEP-19              |                  |  |
| Benzo(b)fluoranthene                  | <0.020                    |           | 0.020     | ug/L            | 11-SEP-19              |                  |  |
| Benzo(g,h,i)perylene                  | <0.020                    |           | 0.020     | ug/L            | 11-SEP-19              |                  |  |
| - (0) // - / - · · ·                  | 1                         |           |           | g, <del>-</del> |                        |                  |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01  ANALT HCAL GOIDELINE REPORT  Page 13-SEP-19 |              |           |        |          |           |       |                  |  |  |  |
|------------------------------------------------------------------------|--------------|-----------|--------|----------|-----------|-------|------------------|--|--|--|
| Sample Details Grouping Analyte                                        | Result       | Qualifier | D.L.   | Units    | Analyzed  |       | Guideline Limits |  |  |  |
| ,                                                                      | IXESUIT      | Qualifier |        |          | Analyzeu  |       | Guideline Limits |  |  |  |
| L2343122-6 MW100                                                       |              |           |        |          |           |       |                  |  |  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 07                                 | :50          |           |        |          |           | #1    |                  |  |  |  |
| Matrix: WATER                                                          |              |           |        |          |           | #1    |                  |  |  |  |
| Polycyclic Aromatic Hydrocarbons                                       |              |           |        |          |           |       |                  |  |  |  |
| Benzo(k)fluoranthene                                                   | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| Chrysene                                                               | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| Dibenzo(ah)anthracene                                                  | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| Fluoranthene                                                           | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| Fluorene                                                               | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| Indeno(1,2,3-cd)pyrene                                                 | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| 1+2-Methylnaphthalenes                                                 | <0.028       |           | 0.028  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| 1-Methylnaphthalene                                                    | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| 2-Methylnaphthalene                                                    | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| Naphthalene                                                            | <0.050       |           | 0.050  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| Phenanthrene                                                           | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| Pyrene                                                                 | <0.020       |           | 0.020  | ug/L     | 11-SEP-19 |       |                  |  |  |  |
| Surrogate: d10-Acenaphthene                                            | 94.5         |           | 60-140 | %        | 11-SEP-19 |       |                  |  |  |  |
| Surrogate: d12-Chrysene                                                | 95.1         |           | 60-140 | %        | 11-SEP-19 |       |                  |  |  |  |
| Surrogate: d8-Naphthalene                                              | 99.2         |           | 60-140 | %        | 11-SEP-19 |       |                  |  |  |  |
| Surrogate: d10-Phenanthrene                                            | 94.7         |           | 60-140 | %        | 11-SEP-19 |       |                  |  |  |  |
| L2343122-7 MW102A                                                      |              |           |        |          |           |       |                  |  |  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 10                                 | -10          |           |        |          |           |       |                  |  |  |  |
|                                                                        |              |           |        |          |           | #1    |                  |  |  |  |
|                                                                        |              |           |        |          |           |       |                  |  |  |  |
| Physical Tests                                                         |              |           |        |          |           |       |                  |  |  |  |
| Conductivity                                                           | 17.9         |           | 0.0030 | mS/cm    | 09-SEP-19 | *0.57 |                  |  |  |  |
| рН                                                                     | 7.43         |           | 0.10   | pH units | 09-SEP-19 |       |                  |  |  |  |
| Anions and Nutrients                                                   |              |           |        |          |           |       |                  |  |  |  |
| Chloride (CI)                                                          | 6010         | DLHC      | 50     | mg/L     | 10-SEP-19 |       |                  |  |  |  |
| Cyanides                                                               |              |           |        |          |           |       |                  |  |  |  |
| Cyanide, Weak Acid Diss                                                | <2.0         |           | 2.0    | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Metals                                                                 |              |           |        |          |           |       |                  |  |  |  |
| Sodium Adsorption Ratio                                                | Incalculable | SAR:INC   | 0.10   | SAR      | 10-SEP-19 |       |                  |  |  |  |
| Dissolved Metals                                                       |              |           |        |          |           |       |                  |  |  |  |
| Dissolved Mercury Filtration Location                                  | FIELD        |           |        | No Unit  | 09-SEP-19 |       |                  |  |  |  |
| Dissolved Metals Filtration Location                                   | FIELD        |           |        | No Unit  | 09-SEP-19 |       |                  |  |  |  |
| Antimony (Sb)-Dissolved                                                | <10          | DLHC      | 10     | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Arsenic (As)-Dissolved                                                 | <10          | DLHC      | 10     | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Barium (Ba)-Dissolved                                                  | 462          | DLHC      | 10     | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Beryllium (Be)-Dissolved                                               | <10          | DLHC      | 10     | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Boron (B)-Dissolved                                                    | <1000        | DLHC      | 1000   | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Cadmium (Cd)-Dissolved                                                 | <0.50        | DLHC      | 0.50   | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Chromium (Cr)-Dissolved                                                | <50          | DLHC      | 50     | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Cobalt (Co)-Dissolved                                                  | <10          | DLHC      | 10     | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Copper (Cu)-Dissolved                                                  | <20          | DLHC      | 20     | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Lead (Pb)-Dissolved                                                    | <5.0         | DLHC      | 5.0    | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Mercury (Hg)-Dissolved                                                 | <0.0050      |           | 0.0050 | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Molybdenum (Mo)-Dissolved                                              | <5.0         | DLHC      | 5.0    | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Nickel (Ni)-Dissolved                                                  | <50          | DLHC      | 50     | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Selenium (Se)-Dissolved                                                | <5.0         | DLHC      | 5.0    | ug/L     | 10-SEP-19 |       |                  |  |  |  |
| Silver (Ag)-Dissolved                                                  | <5.0         | DLHC      | 5.0    | ug/L     | 10-SEP-19 |       |                  |  |  |  |

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:



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| CE751900.A.CS.EV.19.19-01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |           |      |              |           |    |               | 13-SEP-19 12:41 (MT) |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|------|--------------|-----------|----|---------------|----------------------|--|--|
| Sample Details Grouping Analyte                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Result  | Qualifier | D.L. | Units        | Analyzed  |    | Guideline Lim | nite                 |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |         | Qualifici |      |              | Analyzeu  |    | Guideline Lin | iito                 |  |  |
| L2343122-7 MW102A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |         |           |      |              |           |    |               |                      |  |  |
| Sampled By: V PETERS on 06-SEP-19 @                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10:10   |           |      |              |           | #1 |               |                      |  |  |
| Matrix: WATER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |         |           |      |              | -         | #1 |               | 1                    |  |  |
| Dissolved Metals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |         |           |      |              |           |    |               |                      |  |  |
| Sodium (Na)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3960000 | DLHC      | 5000 | ug/L         | 10-SEP-19 |    |               |                      |  |  |
| Thallium (TI)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <1.0    | DLHC      | 1.0  | ug/L         | 10-SEP-19 |    |               |                      |  |  |
| Uranium (U)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3.5     | DLHC      | 1.0  | ug/L         | 10-SEP-19 |    |               |                      |  |  |
| Vanadium (V)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <50     | DLHC      | 50   | ug/L         | 10-SEP-19 |    |               |                      |  |  |
| Zinc (Zn)-Dissolved                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <100    | DLHC      | 100  | ug/L         | 10-SEP-19 |    |               |                      |  |  |
| Speciated Metals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |         |           |      | -9-          |           |    |               |                      |  |  |
| Chromium, Hexavalent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <0.50   |           | 0.50 | ug/L         | 10-SEP-19 |    |               |                      |  |  |
| Volatile Organic Compounds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 10.00   |           | 0.00 | ug/ L        | 1002. 10  |    |               |                      |  |  |
| Acetone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <30     |           | 30   | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Benzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <0.50   |           | 0.50 | ug/L<br>ug/L | 11-SEP-19 |    |               |                      |  |  |
| Bromodichloromethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <2.0    |           | 2.0  | ug/L<br>ug/L | 11-SEP-19 |    |               |                      |  |  |
| Bromoform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <5.0    |           | 5.0  | ug/L<br>ug/L | 11-SEP-19 |    |               |                      |  |  |
| Bromomethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <0.50   |           | 0.50 | ug/L<br>ug/L | 11-SEP-19 |    |               |                      |  |  |
| Carbon tetrachloride                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <0.20   |           | 0.30 | ug/L<br>ug/L | 11-SEP-19 |    |               |                      |  |  |
| Chlorobenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <0.50   |           | 0.50 | ug/L<br>ug/L | 11-SEP-19 |    |               |                      |  |  |
| Dibromochloromethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <2.0    |           | 2.0  | ug/L<br>ug/L | 11-SEP-19 |    |               |                      |  |  |
| Chloroform                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <1.0    |           | 1.0  | ug/L<br>ug/L | 11-SEP-19 |    |               |                      |  |  |
| 1,2-Dibromoethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <0.20   |           | 0.20 | ug/L<br>ug/L | 11-SEP-19 |    |               |                      |  |  |
| 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Distribution 1,2-Di | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,3-Dichlorobenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,4-Dichlorobenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Dichlorodifluoromethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <2.0    |           | 2.0  | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,1-Dichloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,2-Dichloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,1-Dichloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| cis-1,2-Dichloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| trans-1,2-Dichloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Methylene Chloride                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <5.0    |           | 5.0  | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,2-Dichloropropane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| cis-1,3-Dichloropropene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <0.30   |           | 0.30 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| trans-1,3-Dichloropropene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <0.30   |           | 0.30 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,3-Dichloropropene (cis & trans)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Ethylbenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| n-Hexane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Methyl Ethyl Ketone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <20     |           | 20   | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Methyl Isobutyl Ketone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <20     |           | 20   | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| MTBE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <2.0    |           | 2.0  | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Styrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,1,1,2-Tetrachloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,1,2,2-Tetrachloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Tetrachloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Toluene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,1,1-Trichloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| 1,1,2-Trichloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Trichloroethylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Trichlorofluoromethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <5.0    |           | 5.0  | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| Vinyl chloride                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <0.50   |           | 0.50 | ug/L         | 11-SEP-19 |    |               |                      |  |  |
| - V. J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.00    |           | 0.00 | 1 ,          | 14.055.40 |    | 1             |                      |  |  |

ug/L \*\* Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

< 0.30

0.30

11-SEP-19

o-Xylene

Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| E751900.A.CS.EV.19.19-01                                         |                  |           |                |                 |                        |       |                  |  |  |
|------------------------------------------------------------------|------------------|-----------|----------------|-----------------|------------------------|-------|------------------|--|--|
| Sample Details Grouping Analyte                                  | Result           | Qualifier | D.L.           | Units           | Analyzed               |       | Guideline Limits |  |  |
| 2343122-7 MW102A                                                 |                  |           |                |                 |                        |       |                  |  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 1                            | 0.10             |           |                |                 |                        |       |                  |  |  |
| Matrix: WATER                                                    | 0.10             |           |                |                 |                        | #1    |                  |  |  |
|                                                                  |                  |           |                |                 |                        |       |                  |  |  |
| Volatile Organic Compounds                                       |                  |           |                |                 |                        |       |                  |  |  |
| m+p-Xylenes                                                      | <0.40            |           | 0.40           | ug/L            | 11-SEP-19              |       |                  |  |  |
| Xylenes (Total)                                                  | <0.50            |           | 0.50           | ug/L            | 11-SEP-19              |       |                  |  |  |
| Surrogate: 4-Bromofluorobenzene                                  | 91.9             |           | 70-130         | %               | 11-SEP-19              |       |                  |  |  |
| Surrogate: 1,4-Difluorobenzene                                   | 95.8             |           | 70-130         | %               | 11-SEP-19              |       |                  |  |  |
| Hydrocarbons                                                     |                  |           |                |                 |                        |       |                  |  |  |
| F1 (C6-C10)                                                      | <25              |           | 25             | ug/L            | 11-SEP-19              |       |                  |  |  |
| F1-BTEX                                                          | <25              |           | 25             | ug/L            | 11-SEP-19              |       |                  |  |  |
| F2 (C10-C16)                                                     | <100             |           | 100            | ug/L            | 10-SEP-19              |       |                  |  |  |
| F2-Naphth                                                        | <100             |           | 100            | ug/L            | 11-SEP-19              |       |                  |  |  |
| F3 (C16-C34)                                                     | <250             |           | 250            | ug/L            | 10-SEP-19              |       |                  |  |  |
| F3-PAH                                                           | <250             |           | 250            | ug/L            | 11-SEP-19              |       |                  |  |  |
| F4 (C34-C50)                                                     | <250             |           | 250            | ug/L            | 10-SEP-19              |       |                  |  |  |
| Total Hydrocarbons (C6-C50) Chrom. to baseline at nC50           | <370<br>YES      |           | 370            | ug/L<br>No Unit | 11-SEP-19<br>10-SEP-19 |       |                  |  |  |
| Surrogate: 2-Bromobenzotrifluoride                               | 80.5             |           | 60-140         | %               | 10-SEP-19<br>10-SEP-19 |       |                  |  |  |
| 3                                                                | 87.2             |           | 60-140         | %               | 11-SEP-19              |       |                  |  |  |
| Surrogate: 3,4-Dichlorotoluene  Polycyclic Aromatic Hydrocarbons | 07.2             |           | 00-140         | 70              | 11-3EF-19              |       |                  |  |  |
|                                                                  | 0.000            |           | 0.000          | ,,              | 44.055.40              |       |                  |  |  |
| Acenaphthene                                                     | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Acenaphthylene                                                   | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Anthracene                                                       | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Benzo(a)anthracene                                               | <0.020<br><0.010 |           | 0.020<br>0.010 | ug/L            | 11-SEP-19<br>11-SEP-19 |       |                  |  |  |
| Benzo(a)pyrene<br>Benzo(b)fluoranthene                           | <0.010           |           | 0.010          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Benzo(g,h,i)perylene                                             | <0.020           |           | 0.020          | ug/L<br>ug/L    | 11-SEP-19              |       |                  |  |  |
| Benzo(k)fluoranthene                                             | <0.020           |           | 0.020          | ug/L<br>ug/L    | 11-SEP-19              |       |                  |  |  |
| Chrysene                                                         | <0.020           |           | 0.020          | ug/L<br>ug/L    | 11-SEP-19              |       |                  |  |  |
| Dibenzo(ah)anthracene                                            | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Fluoranthene                                                     | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Fluorene                                                         | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Indeno(1,2,3-cd)pyrene                                           | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| 1+2-Methylnaphthalenes                                           | <0.028           |           | 0.028          | ug/L            | 11-SEP-19              |       |                  |  |  |
| 1-Methylnaphthalene                                              | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| 2-Methylnaphthalene                                              | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Naphthalene                                                      | <0.050           |           | 0.050          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Phenanthrene                                                     | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Pyrene                                                           | <0.020           |           | 0.020          | ug/L            | 11-SEP-19              |       |                  |  |  |
| Surrogate: d10-Acenaphthene                                      | 91.7             |           | 60-140         | %               | 11-SEP-19              |       |                  |  |  |
| Surrogate: d12-Chrysene                                          | 94.5             |           | 60-140         | %               | 11-SEP-19              |       |                  |  |  |
| Surrogate: d8-Naphthalene                                        | 93.5             |           | 60-140         | %               | 11-SEP-19              |       |                  |  |  |
| Surrogate: d10-Phenanthrene                                      | 92.7             |           | 60-140         | %               | 11-SEP-19              |       |                  |  |  |
| 2343122-8 MW102B                                                 |                  |           |                |                 |                        |       |                  |  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 1                            | 1:10             |           |                |                 |                        |       |                  |  |  |
| Matrix: WATER                                                    |                  |           |                |                 |                        | #1    |                  |  |  |
|                                                                  |                  |           |                |                 |                        | 1     |                  |  |  |
| Physical Tests                                                   |                  |           |                |                 |                        |       |                  |  |  |
| Conductivity                                                     | 27.0             |           | 0.0030         | mS/cm           | 09-SEP-19              | *0.57 |                  |  |  |
| рН                                                               | 7.14             |           | 0.10           | pH units        | 09-SEP-19              |       |                  |  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01                       |         |           |        |         |           |                  | 13-SEP-19 1 |  |
|-------------------------------------------------|---------|-----------|--------|---------|-----------|------------------|-------------|--|
| Sample Details Grouping Analyte                 | Result  | Qualifier | D.L.   | Units   | Analyzed  | Guideline Limits |             |  |
| L2343122-8 MW102B                               |         |           |        |         |           |                  |             |  |
| Sampled By: V PETERS on 06-SEP-19 @ 11:         | 10      |           |        |         |           |                  |             |  |
| Matrix: WATER                                   |         |           |        |         |           | #1               |             |  |
| Anions and Nutrients                            |         |           |        |         |           |                  |             |  |
| Chloride (CI)                                   | 9610    | DLHC      | 50     | mg/L    | 10-SEP-19 |                  |             |  |
| Cyanides                                        |         |           |        |         |           |                  |             |  |
| Cyanide, Weak Acid Diss                         | <2.0    |           | 2.0    | ug/L    | 10-SEP-19 |                  |             |  |
| Metals                                          |         |           |        |         |           |                  |             |  |
| Sodium Adsorption Ratio                         | >22     | SAR:L     | 0.10   | SAR     | 10-SEP-19 | *2.4             |             |  |
| Dissolved Metals                                |         |           |        |         |           |                  |             |  |
| Dissolved Mercury Filtration Location           | FIELD   |           |        | No Unit | 09-SEP-19 |                  |             |  |
| Dissolved Metals Filtration Location            | FIELD   |           |        | No Unit | 09-SEP-19 |                  |             |  |
| Antimony (Sb)-Dissolved                         | <10     | DLHC      | 10     | ug/L    | 10-SEP-19 |                  |             |  |
| Arsenic (As)-Dissolved                          | <10     | DLHC      | 10     | ug/L    | 10-SEP-19 |                  |             |  |
| Barium (Ba)-Dissolved                           | 619     | DLHC      | 10     | ug/L    | 10-SEP-19 |                  |             |  |
| Beryllium (Be)-Dissolved                        | <10     | DLHC      | 10     | ug/L    | 10-SEP-19 |                  |             |  |
| Boron (B)-Dissolved                             | <1000   | DLHC      | 1000   | ug/L    | 10-SEP-19 |                  |             |  |
| Cadmium (Cd)-Dissolved                          | 1.02    | DLHC      | 0.50   | ug/L    | 10-SEP-19 |                  |             |  |
| Chromium (Cr)-Dissolved                         | <50     | DLHC      | 50     | ug/L    | 10-SEP-19 |                  |             |  |
| Cobalt (Co)-Dissolved                           | <10     | DLHC      | 10     | ug/L    | 10-SEP-19 |                  |             |  |
| Copper (Cu)-Dissolved                           | <20     | DLHC      | 20     | ug/L    | 10-SEP-19 |                  |             |  |
| Lead (Pb)-Dissolved                             | <5.0    | DLHC      | 5.0    | ug/L    | 10-SEP-19 |                  |             |  |
| Mercury (Hg)-Dissolved                          | <0.0050 |           | 0.0050 | ug/L    | 10-SEP-19 |                  |             |  |
| Molybdenum (Mo)-Dissolved                       | 13.3    | DLHC      | 5.0    | ug/L    | 10-SEP-19 |                  |             |  |
| Nickel (Ni)-Dissolved                           | <50     | DLHC      | 50     | ug/L    | 10-SEP-19 |                  |             |  |
| Selenium (Se)-Dissolved                         | <5.0    | DLHC      | 5.0    | ug/L    | 10-SEP-19 |                  |             |  |
| Silver (Ag)-Dissolved                           | <5.0    | DLHC      | 5.0    | ug/L    | 10-SEP-19 |                  |             |  |
| Sodium (Na)-Dissolved                           | 6100000 | DLHC      | 5000   | ug/L    | 10-SEP-19 |                  |             |  |
| Thallium (TI)-Dissolved                         | <1.0    | DLHC      | 1.0    | ug/L    | 10-SEP-19 |                  |             |  |
| Uranium (U)-Dissolved                           | 1.8     | DLHC      | 1.0    | ug/L    | 10-SEP-19 |                  |             |  |
| Vanadium (V)-Dissolved                          | <50     | DLHC      | 50     | ug/L    | 10-SEP-19 |                  |             |  |
| Zinc (Zn)-Dissolved                             | <100    | DLHC      | 100    | ug/L    | 10-SEP-19 |                  |             |  |
| Speciated Metals                                |         |           |        |         |           |                  |             |  |
| Chromium, Hexavalent Volatile Organic Compounds | 1.28    |           | 0.50   | ug/L    | 10-SEP-19 |                  |             |  |
| Acetone                                         | <30     |           | 30     | ug/L    | 11-SEP-19 |                  |             |  |
| Benzene                                         | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                  |             |  |
| Bromodichloromethane                            | <2.0    |           | 2.0    | ug/L    | 11-SEP-19 |                  |             |  |
| Bromoform                                       | <5.0    |           | 5.0    | ug/L    | 11-SEP-19 |                  |             |  |
| Bromomethane                                    | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                  |             |  |
| Carbon tetrachloride                            | <0.20   |           | 0.20   | ug/L    | 11-SEP-19 |                  |             |  |
| Chlorobenzene                                   | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                  |             |  |
| Dibromochloromethane                            | <2.0    |           | 2.0    | ug/L    | 11-SEP-19 |                  |             |  |
| Chloroform                                      | 1.5     |           | 1.0    | ug/L    | 11-SEP-19 |                  |             |  |
| 1,2-Dibromoethane                               | <0.20   |           | 0.20   | ug/L    | 11-SEP-19 |                  |             |  |
| 1,2-Dichlorobenzene                             | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                  |             |  |
| 1,3-Dichlorobenzene                             | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                  |             |  |
| 1,4-Dichlorobenzene                             | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                  |             |  |
| Dichlorodifluoromethane                         | <2.0    |           | 2.0    | ug/L    | 11-SEP-19 |                  |             |  |
| 1,1-Dichloroethane                              | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                  |             |  |
| 1,2-Dichloroethane                              | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                  |             |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| ANALT IICAL GUIDELINE REPORT Page 21 of 40 CE751900.A.CS.EV.19.19-01 13-SEP-19 12:41 (M |        |           |        |         |           |                  |  |  |  |  |  |
|-----------------------------------------------------------------------------------------|--------|-----------|--------|---------|-----------|------------------|--|--|--|--|--|
| Sample Details                                                                          | Result | Qualifier | D.L.   | Units   | Analyzad  |                  |  |  |  |  |  |
| Grouping Analyte                                                                        | Resuit | Qualifier | D.L.   | Units   | Analyzed  | Guideline Limits |  |  |  |  |  |
| L2343122-8 MW102B                                                                       |        |           |        |         |           |                  |  |  |  |  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 1                                                   | 1:10   |           |        |         |           | #1               |  |  |  |  |  |
| Matrix: WATER                                                                           |        |           |        |         |           | #1               |  |  |  |  |  |
| Volatile Organic Compounds                                                              |        |           |        |         |           |                  |  |  |  |  |  |
| 1,1-Dichloroethylene                                                                    | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| cis-1,2-Dichloroethylene                                                                | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| trans-1,2-Dichloroethylene                                                              | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Methylene Chloride                                                                      | <5.0   |           | 5.0    | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| 1,2-Dichloropropane                                                                     | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| cis-1,3-Dichloropropene                                                                 | <0.30  |           | 0.30   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| trans-1,3-Dichloropropene                                                               | <0.30  |           | 0.30   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| 1,3-Dichloropropene (cis & trans)                                                       | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Ethylbenzene                                                                            | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| n-Hexane                                                                                | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Methyl Ethyl Ketone                                                                     | <20    |           | 20     | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Methyl Isobutyl Ketone                                                                  | <20    |           | 20     | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| MTBE                                                                                    | <2.0   |           | 2.0    | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Styrene                                                                                 | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| 1,1,1,2-Tetrachloroethane                                                               | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| 1,1,2,2-Tetrachloroethane                                                               | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Tetrachloroethylene                                                                     | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Toluene                                                                                 | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| 1,1,1-Trichloroethane                                                                   | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| 1,1,2-Trichloroethane                                                                   | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Trichloroethylene                                                                       | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Trichlorofluoromethane                                                                  | <5.0   |           | 5.0    | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Vinyl chloride                                                                          | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| o-Xylene                                                                                | <0.30  |           | 0.30   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| m+p-Xylenes                                                                             | <0.40  |           | 0.40   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Xylenes (Total)                                                                         | <0.50  |           | 0.50   | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Surrogate: 4-Bromofluorobenzene                                                         | 91.4   |           | 70-130 | %       | 11-SEP-19 |                  |  |  |  |  |  |
| Surrogate: 1,4-Difluorobenzene                                                          | 96.2   |           | 70-130 | %       | 11-SEP-19 |                  |  |  |  |  |  |
| Hydrocarbons                                                                            |        |           |        |         |           |                  |  |  |  |  |  |
| F1 (C6-C10)                                                                             | <25    |           | 25     | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| F1-BTEX                                                                                 | <25    |           | 25     | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| F2 (C10-C16)                                                                            | <100   |           | 100    | ug/L    | 10-SEP-19 |                  |  |  |  |  |  |
| F2-Naphth                                                                               | <100   |           | 100    | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| F3 (C16-C34)                                                                            | <250   |           | 250    | ug/L    | 10-SEP-19 |                  |  |  |  |  |  |
| F3-PAH                                                                                  | <250   |           | 250    | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| F4 (C34-C50)                                                                            | <250   |           | 250    | ug/L    | 10-SEP-19 |                  |  |  |  |  |  |
| Total Hydrocarbons (C6-C50)                                                             | <370   |           | 370    | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Chrom. to baseline at nC50                                                              | YES    |           | 00.440 | No Unit | 10-SEP-19 |                  |  |  |  |  |  |
| Surrogate: 2-Bromobenzotrifluoride                                                      | 84.5   |           | 60-140 | %       | 10-SEP-19 |                  |  |  |  |  |  |
| Surrogate: 3,4-Dichlorotoluene  Polycyclic Aromatic Hydrocarbons                        | 77.0   |           | 60-140 | %       | 11-SEP-19 |                  |  |  |  |  |  |
|                                                                                         | *0.000 |           | 0.000  | //      | 11 SED 10 |                  |  |  |  |  |  |
| Acenaphthene                                                                            | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Acenaphthylene                                                                          | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Anthracene                                                                              | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Benzo(a)anthracene                                                                      | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Benzo(a)pyrene                                                                          | <0.010 |           | 0.010  | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |
| Benzo(b)fluoranthene                                                                    | <0.020 |           | 0.020  | ug/L    | 11-SEP-19 |                  |  |  |  |  |  |

Benzo(g,h,i)perylene Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

< 0.020

ug/L

11-SEP-19

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01 13-SEP-19 12:41 (MT) |              |           |        |              |                        |       |               |      |  |  |
|------------------------------------------------|--------------|-----------|--------|--------------|------------------------|-------|---------------|------|--|--|
| Sample Details Grouping Analyte                | Result       | Qualifier | D.L.   | Units        | Analyzed               |       | Guideline Lir | mits |  |  |
| L2343122-8 MW102B                              |              |           |        |              |                        |       |               |      |  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 11         | :10          |           |        |              |                        |       |               |      |  |  |
| Matrix: WATER                                  |              |           |        |              |                        | #1    |               |      |  |  |
| Polycyclic Aromatic Hydrocarbons               |              |           |        |              |                        |       |               |      |  |  |
| Benzo(k)fluoranthene                           | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| Chrysene                                       | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| Dibenzo(ah)anthracene                          | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| Fluoranthene                                   | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| Fluorene                                       | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| Indeno(1,2,3-cd)pyrene                         | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| 1+2-Methylnaphthalenes                         | <0.028       |           | 0.028  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| 1-Methylnaphthalene                            | 0.022        |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| 2-Methylnaphthalene                            | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| Naphthalene                                    | <0.050       |           | 0.050  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| Phenanthrene                                   | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| Pyrene                                         | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |      |  |  |
| Surrogate: d10-Acenaphthene                    | 99.3         |           | 60-140 | %            | 11-SEP-19              |       |               |      |  |  |
| Surrogate: d12-Chrysene                        | 102.9        |           | 60-140 | %            | 11-SEP-19              |       |               |      |  |  |
| Surrogate: d8-Naphthalene                      | 102.8        |           | 60-140 | %            | 11-SEP-19              |       |               |      |  |  |
| Surrogate: d10-Phenanthrene                    | 99.1         |           | 60-140 | %            | 11-SEP-19              |       |               |      |  |  |
| <del>-</del>                                   | 00.1         |           | 00 110 | 70           | 11 021 10              |       |               |      |  |  |
| L2343122-9 MW105                               |              |           |        |              |                        |       |               |      |  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 11         | :50          |           |        |              |                        | 44    |               |      |  |  |
| Matrix: WATER                                  |              |           |        |              |                        | #1    |               |      |  |  |
| Physical Tests                                 |              |           |        |              |                        |       |               |      |  |  |
| Conductivity                                   | 5.92         |           | 0.0030 | mS/cm        | 09-SEP-19              | *0.57 |               |      |  |  |
| pH                                             | 8.08         |           | 0.10   | pH units     | 09-SEP-19              |       |               |      |  |  |
| Anions and Nutrients                           |              |           |        |              |                        |       |               |      |  |  |
| Chloride (CI)                                  | 2170         | DLHC      | 10     | mg/L         | 10-SEP-19              |       |               |      |  |  |
| Cyanides                                       |              |           |        |              |                        |       |               |      |  |  |
| Cyanide, Weak Acid Diss                        | <2.0         |           | 2.0    | ug/L         | 10-SEP-19              |       |               |      |  |  |
| Metals                                         |              |           |        |              |                        |       |               |      |  |  |
| Sodium Adsorption Ratio                        | <130         | SAR:DL    | 130    | SAR          | 10-SEP-19              | **2.4 |               |      |  |  |
| Dissolved Metals                               |              |           |        |              |                        |       |               |      |  |  |
| Dissolved Mercury Filtration Location          | FIELD        |           |        | No Unit      | 09-SEP-19              |       |               |      |  |  |
| Dissolved Metals Filtration Location           | FIELD        |           |        | No Unit      | 09-SEP-19              |       |               |      |  |  |
| Antimony (Sb)-Dissolved                        | <1.0         | DLHC      | 1.0    | ug/L         | 09-SEP-19              |       |               |      |  |  |
| Arsenic (As)-Dissolved                         | <1.0         | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |      |  |  |
| Barium (Ba)-Dissolved                          | 136          | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |      |  |  |
| Beryllium (Be)-Dissolved                       | <1.0         | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |      |  |  |
| Boron (B)-Dissolved                            | <1.0         | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |      |  |  |
| Cadmium (Cd)-Dissolved                         | 0.750        | DLHC      | 0.050  | ug/L<br>ug/L | 09-SEP-19              |       |               |      |  |  |
| Chromium (Cr)-Dissolved                        | <5.0         | DLHC      | 5.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |      |  |  |
| Cobalt (Co)-Dissolved                          | <1.0         | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |      |  |  |
| Copper (Cu)-Dissolved                          | <2.0         | DLHC      | 2.0    | -            | 09-SEP-19              |       |               |      |  |  |
| Lead (Pb)-Dissolved                            | <0.50        | DLHC      | 0.50   | ug/L<br>ug/L | 09-SEP-19<br>09-SEP-19 |       |               |      |  |  |
| Mercury (Hg)-Dissolved                         | <0.0050      | DLITC     | 0.0050 | _            | 10-SEP-19              |       |               |      |  |  |
| Molybdenum (Mo)-Dissolved                      | 13.0         | DLHC      | 0.0050 | ug/L         | 09-SEP-19              |       |               |      |  |  |
| • • • • • • • • • • • • • • • • • • • •        |              | DLHC      |        | ug/L         | 09-SEP-19<br>09-SEP-19 |       |               |      |  |  |
| Nickel (Ni)-Dissolved                          | <5.0<br>0.55 | 1         | 5.0    | ug/L         |                        |       |               |      |  |  |
| Selenium (Se)-Dissolved                        | 0.55         | DLHC      | 0.50   | ug/L         | 09-SEP-19              |       |               |      |  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

< 0.50

0.50

ug/L

09-SEP-19

DLHC

Silver (Ag)-Dissolved

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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CE751900.A.CS.EV.19.19-01 13-SEP-19 12:41 (MT) Sample Details Grouping Qualifier D.L. Units Analyte Result Analyzed **Guideline Limits** L2343122-9 MW105 Sampled By: V PETERS on 06-SEP-19 @ 11:50 #1 Matrix: WATER **Dissolved Metals** Sodium (Na)-Dissolved 1200000 DLHC 5000 ug/L 10-SEP-19 Thallium (TI)-Dissolved <0.10 DLHC 09-SEP-19 0.10 ug/L **DLHC** Uranium (U)-Dissolved 1.27 0.10 ug/L 09-SEP-19 Vanadium (V)-Dissolved <5.0 **DLHC** 5.0 ug/L 09-SEP-19 DLHC 09-SEP-19 Zinc (Zn)-Dissolved 11 10 ug/L **Speciated Metals** Chromium, Hexavalent 2.01 0.50 ug/L 10-SEP-19 **Volatile Organic Compounds** Acetone <30 30 ug/L 11-SEP-19 < 0.50 Benzene 0.50 ug/L 11-SEP-19 ug/L Bromodichloromethane 4.1 2.0 11-SEP-19 **Bromoform** < 5.0 5.0 ug/L 11-SEP-19 Bromomethane < 0.50 0.50 ug/L 11-SEP-19 Carbon tetrachloride < 0.20 0.20 ug/L 11-SEP-19 Chlorobenzene < 0.50 0.50 ug/L 11-SEP-19 Dibromochloromethane 4.1 2.0 ug/L 11-SEP-19 Chloroform 3.5 1.0 ug/L 11-SEP-19 1,2-Dibromoethane < 0.20 0.20 ug/L 11-SEP-19 1.2-Dichlorobenzene < 0.50 0.50 ug/L 11-SEP-19 1.3-Dichlorobenzene < 0.50 0.50 ug/L 11-SEP-19 1,4-Dichlorobenzene < 0.50 0.50 ug/L 11-SEP-19 Dichlorodifluoromethane <2.0 2.0 ug/L 11-SEP-19 1,1-Dichloroethane < 0.50 0.50 ug/L 11-SEP-19 1.2-Dichloroethane < 0.50 0.50 ug/L 11-SEP-19 < 0.50 0.50 ug/L 11-SEP-19 1,1-Dichloroethylene 0.50 ug/L 11-SEP-19 cis-1,2-Dichloroethylene < 0.50 trans-1,2-Dichloroethylene < 0.50 0.50 ug/L 11-SEP-19 Methylene Chloride 5.0 ug/L 11-SEP-19 < 5.0 1,2-Dichloropropane < 0.50 0.50 ug/L 11-SEP-19 0.30 ug/L 11-SEP-19 cis-1,3-Dichloropropene < 0.30 11-SEP-19 trans-1,3-Dichloropropene < 0.30 0.30 ug/L 1,3-Dichloropropene (cis & trans) < 0.50 0.50 ug/L 11-SEP-19 Ethylbenzene 0.50 ug/L 11-SEP-19 < 0.50 n-Hexane < 0.50 0.50 ug/L 11-SEP-19 11-SEP-19 Methyl Ethyl Ketone <20 20 ug/L Methyl Isobutyl Ketone <20 20 11-SEP-19 ug/L MTBE <2.0 2.0 ug/L 11-SEP-19 < 0.50 0.50 11-SEP-19 ug/L 1,1,1,2-Tetrachloroethane < 0.50 0.50 ug/L 11-SEP-19 1,1,2,2-Tetrachloroethane < 0.50 0.50 ug/L 11-SEP-19 11-SEP-19 Tetrachloroethylene < 0.50 0.50 ug/L Toluene < 0.50 0.50 ug/L 11-SEP-19 ug/L 1,1,1-Trichloroethane < 0.50 0.50 11-SEP-19 1,1,2-Trichloroethane < 0.50 0.50 ug/L 11-SEP-19 11-SEP-19 Trichloroethylene < 0.50 0.50 ug/L Trichlorofluoromethane 11-SEP-19 < 5.0 5.0 ug/L

< 0.50

< 0.30

0.50

0.30

ug/L

ug/L

11-SEP-19

11-SEP-19

Vinyl chloride

o-Xylene

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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13-SEP-19 12:41 (MT)

| E751900.A.CS.EV.19.19-01                              | Page 24 of 40<br>13-SEP-19 12:41 (MT |           |                  |              |                        |            |                  |  |
|-------------------------------------------------------|--------------------------------------|-----------|------------------|--------------|------------------------|------------|------------------|--|
| Sample Details<br>Grouping Analyte                    | Result                               | Qualifier | D.L.             | Units        | Analyzed               |            | Guideline Limits |  |
| 2343122-9 MW105                                       |                                      |           |                  |              |                        |            |                  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 1                 | 11:50                                |           |                  |              |                        |            |                  |  |
| Matrix: WATER                                         |                                      |           |                  |              |                        | #1         |                  |  |
|                                                       |                                      |           |                  |              |                        |            |                  |  |
| Volatile Organic Compounds                            | 0.40                                 |           | 0.40             |              | 44.050.40              |            |                  |  |
| m+p-Xylenes                                           | <0.40                                |           | 0.40             | ug/L         | 11-SEP-19              |            |                  |  |
| Xylenes (Total)                                       | <0.50                                |           | 0.50             | ug/L         | 11-SEP-19              |            |                  |  |
| Surrogate: 4-Bromofluorobenzene                       | 91.2<br>96.0                         |           | 70-130<br>70-130 | %            | 11-SEP-19<br>11-SEP-19 |            |                  |  |
| Surrogate: 1,4-Difluorobenzene lydrocarbons           | 96.0                                 |           | 70-130           | %            | 11-SEP-19              |            |                  |  |
| •                                                     |                                      |           |                  | ,,           |                        |            |                  |  |
| F1 (C6-C10)                                           | <25                                  |           | 25               | ug/L         | 11-SEP-19              |            |                  |  |
| F1-BTEX                                               | <25                                  |           | 25               | ug/L         | 11-SEP-19              |            |                  |  |
| F2 (C10-C16)                                          | <100                                 |           | 100              | ug/L         | 10-SEP-19              |            |                  |  |
| F2-Naphth                                             | <100                                 |           | 100              | ug/L         | 11-SEP-19              |            |                  |  |
| F3 (C16-C34)                                          | <250                                 |           | 250              | ug/L         | 10-SEP-19              |            |                  |  |
| F3-PAH                                                | <250                                 |           | 250              | ug/L         | 11-SEP-19              |            |                  |  |
| F4 (C34-C50)                                          | <250                                 |           | 250              | ug/L         | 10-SEP-19              |            |                  |  |
| Total Hydrocarbons (C6-C50)                           | <370                                 |           | 370              | ug/L         | 11-SEP-19              |            |                  |  |
| Chrom. to baseline at nC50                            | YES                                  |           | 00 440           | No Unit      | 10-SEP-19              |            |                  |  |
| Surrogate: 2-Bromobenzotrifluoride                    | 88.9<br>89.7                         |           | 60-140           | %            | 10-SEP-19              |            |                  |  |
| Surrogate: 3,4-Dichlorotoluene                        | 89.7                                 |           | 60-140           | %            | 11-SEP-19              |            |                  |  |
| Polycyclic Aromatic Hydrocarbons                      |                                      |           |                  |              |                        |            |                  |  |
| Acenaphthene                                          | <0.020                               |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Acenaphthylene                                        | <0.020                               |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Anthracene                                            | <0.020                               |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Benzo(a)anthracene                                    | <0.020                               |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Benzo(a)pyrene                                        | <0.010                               |           | 0.010            | ug/L         | 11-SEP-19              |            |                  |  |
| Benzo(b)fluoranthene                                  | <0.020                               |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Benzo(g,h,i)perylene                                  | <0.020                               |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Benzo(k)fluoranthene                                  | <0.020                               |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Chrysene                                              | <0.020                               |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Dibenzo(ah)anthracene<br>Fluoranthene                 | <0.020<br><0.020                     |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
|                                                       | <0.020                               |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Fluorene                                              |                                      |           | 0.020            | ug/L         | 11-SEP-19              |            |                  |  |
| Indeno(1,2,3-cd)pyrene 1+2-Methylnaphthalenes         | <0.020<br><0.028                     |           | 0.020<br>0.028   | ug/L         | 11-SEP-19<br>11-SEP-19 |            |                  |  |
| 1-Methylnaphthalene                                   | <0.028                               |           | 0.028            | ug/L         | 11-SEP-19              |            |                  |  |
| 2-Methylnaphthalene                                   | <0.020                               |           | 0.020            | ug/L<br>ug/L | 11-SEP-19              |            |                  |  |
| Naphthalene                                           | <0.020                               |           | 0.020            | ug/L<br>ug/L | 11-SEP-19              |            |                  |  |
| Phenanthrene                                          | <0.030                               |           | 0.030            | ug/L<br>ug/L | 11-SEP-19              |            |                  |  |
| Pyrene                                                | <0.020                               |           | 0.020            | ug/L<br>ug/L | 11-SEP-19              |            |                  |  |
| Surrogate: d10-Acenaphthene                           | 105.9                                |           | 60-140           | wg/L<br>%    | 11-SEP-19              |            |                  |  |
| Surrogate: d12-Chrysene                               | 108.9                                |           | 60-140           | %            | 11-SEP-19              |            |                  |  |
| Surrogate: d12-Ciriysene Surrogate: d8-Naphthalene    | 108.8                                |           | 60-140           | %<br>%       | 11-SEP-19              |            |                  |  |
| Surrogate: do Naphinalene Surrogate: d10-Phenanthrene | 105.5                                |           | 60-140           | %            | 11-SEP-19              |            |                  |  |
|                                                       | 1.00.0                               |           | 00 140           | /0           | 11.021.10              |            |                  |  |
| 2343122-10 MW107                                      |                                      |           |                  |              |                        |            |                  |  |
| ampled By: V PETERS on 06-SEP-19 @ 1                  | 13:20                                |           |                  |              |                        | " <u>.</u> |                  |  |
| Matrix: WATER                                         |                                      |           |                  |              |                        | #1         |                  |  |
| Physical Tests                                        |                                      |           |                  |              |                        |            |                  |  |
|                                                       | 2.00                                 |           | 0.0000           | mC/c         | 00 000 40              | *0.57      |                  |  |
| Conductivity                                          | 3.22                                 |           | 0.0030           | mS/cm        | 09-SEP-19              | *0.57      |                  |  |
| рН                                                    | 7.76                                 |           | 0.10             | pH units     | 09-SEP-19              |            |                  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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|----------------------------------------------|---------|-----------|-----------|--------------------------------------|-----------|------------------|--|
| Sample Details<br>Grouping Analyte           | Result  | Qualifier | D.L.      | Units                                | Analyzed  | Guideline Limits |  |
| .2343122-10 MW107                            |         |           |           |                                      |           |                  |  |
| Sampled By: V PETERS on 06-SEP-19 @ 1        | 3:20    |           |           |                                      |           |                  |  |
| Matrix: WATER                                |         |           |           |                                      |           | #1               |  |
| Anions and Nutrients                         |         |           |           |                                      |           |                  |  |
|                                              | 000     | DILLO     | <b>50</b> |                                      | 40.050.40 |                  |  |
| Chloride (CI)  Cyanides                      | 969     | DLHC      | 5.0       | mg/L                                 | 10-SEP-19 |                  |  |
| Cyanide, Weak Acid Diss                      | <2.0    |           | 2.0       | ug/L                                 | 10-SEP-19 |                  |  |
| Metals                                       |         |           |           |                                      |           |                  |  |
| Sodium Adsorption Ratio                      | >5.8    | SAR:L     | 0.10      | SAR                                  | 10-SEP-19 | *2.4             |  |
| Dissolved Metals                             |         |           |           |                                      |           |                  |  |
| Dissolved Mercury Filtration Location        | FIELD   |           |           | No Unit                              | 09-SEP-19 |                  |  |
| Dissolved Metals Filtration Location         | FIELD   |           |           | No Unit                              | 09-SEP-19 |                  |  |
| Antimony (Sb)-Dissolved                      | <1.0    | DLHC      | 1.0       | ug/L                                 | 09-SEP-19 |                  |  |
| Arsenic (As)-Dissolved                       | <1.0    | DLHC      | 1.0       | ug/L                                 | 09-SEP-19 |                  |  |
| Barium (Ba)-Dissolved                        | 94.1    | DLHC      | 1.0       | ug/L                                 | 09-SEP-19 |                  |  |
| Beryllium (Be)-Dissolved                     | <1.0    | DLHC      | 1.0       | ug/L                                 | 09-SEP-19 |                  |  |
| Boron (B)-Dissolved                          | <100    | DLHC      | 100       | ug/L                                 | 09-SEP-19 |                  |  |
| Cadmium (Cd)-Dissolved                       | 3.01    | DLHC      | 0.050     | ug/L                                 | 09-SEP-19 |                  |  |
| Chromium (Cr)-Dissolved                      | <5.0    | DLHC      | 5.0       | ug/L                                 | 09-SEP-19 |                  |  |
| Cobalt (Co)-Dissolved                        | <1.0    | DLHC      | 1.0       | ug/L                                 | 09-SEP-19 |                  |  |
| Copper (Cu)-Dissolved                        | <2.0    | DLHC      | 2.0       | ug/L                                 | 09-SEP-19 |                  |  |
| Lead (Pb)-Dissolved                          | <0.50   | DLHC      | 0.50      | ug/L                                 | 09-SEP-19 |                  |  |
| Mercury (Hg)-Dissolved                       | <0.0050 | DEI 10    | 0.0050    | ug/L                                 | 10-SEP-19 |                  |  |
| Molybdenum (Mo)-Dissolved                    | 1.05    | DLHC      | 0.50      | ug/L                                 | 09-SEP-19 |                  |  |
| Nickel (Ni)-Dissolved                        | <5.0    | DLHC      | 5.0       | ug/L                                 | 09-SEP-19 |                  |  |
| Selenium (Se)-Dissolved                      | 1.01    | DLHC      | 0.50      | ug/L<br>ug/L                         | 09-SEP-19 |                  |  |
| Silver (Ag)-Dissolved                        | <0.50   | DLHC      | 0.50      | ug/L                                 | 09-SEP-19 |                  |  |
| Sodium (Na)-Dissolved                        | 505000  | DLHC      | 500       | ug/L<br>ug/L                         | 09-SEP-19 |                  |  |
|                                              | <0.10   | DLHC      | 0.10      |                                      | 09-SEP-19 |                  |  |
| Thallium (TI)-Dissolved                      | 0.63    | DLHC      | 0.10      | ug/L                                 | 09-SEP-19 |                  |  |
| Uranium (U)-Dissolved Vanadium (V)-Dissolved | <5.0    | DLHC      | 5.0       | ug/L                                 | 09-SEP-19 |                  |  |
| ` '                                          |         |           |           | ug/L                                 |           |                  |  |
| Zinc (Zn)-Dissolved Speciated Metals         | 11      | DLHC      | 10        | ug/L                                 | 09-SEP-19 |                  |  |
| Chromium, Hexavalent                         | 3.80    |           | 0.50      | ug/L                                 | 10-SEP-19 |                  |  |
| Volatile Organic Compounds                   | 3.00    |           | 0.00      | ~9, L                                | 10021 10  |                  |  |
| Acetone                                      | <30     |           | 30        | ug/L                                 | 11-SEP-19 |                  |  |
| Benzene                                      | <0.50   |           | 0.50      | ug/L                                 | 11-SEP-19 |                  |  |
| Bromodichloromethane                         | <2.0    |           | 2.0       | ug/L                                 | 11-SEP-19 |                  |  |
| Bromoform                                    | <5.0    |           | 5.0       | ug/L                                 | 11-SEP-19 |                  |  |
| Bromomethane                                 | <0.50   |           | 0.50      | ug/L                                 | 11-SEP-19 |                  |  |
| Carbon tetrachloride                         | <0.20   |           | 0.20      | ug/L                                 | 11-SEP-19 |                  |  |
| Chlorobenzene                                | <0.50   |           | 0.50      | ug/L                                 | 11-SEP-19 |                  |  |
| Dibromochloromethane                         | <2.0    |           | 2.0       | ug/L<br>ug/L                         | 11-SEP-19 |                  |  |
| Chloroform                                   | 11.3    |           | 1.0       | ug/L<br>ug/L                         | 11-SEP-19 |                  |  |
| 1,2-Dibromoethane                            | <0.20   |           | 0.20      | ug/L<br>ug/L                         | 11-SEP-19 |                  |  |
| 1,2-Dictinoetriane 1,2-Dichlorobenzene       | <0.20   |           | 0.20      | ug/L<br>ug/L                         | 11-SEP-19 |                  |  |
| 1,3-Dichlorobenzene                          | <0.50   |           |           | _                                    |           |                  |  |
| ·                                            |         |           | 0.50      | ug/L                                 | 11-SEP-19 |                  |  |
| 1,4-Dichlorobenzene                          | <0.50   |           | 0.50      | ug/L                                 | 11-SEP-19 |                  |  |
| Dichlorodifluoromethane                      | <2.0    |           | 2.0       | ug/L                                 | 11-SEP-19 |                  |  |
| 1,1-Dichloroethane                           | <0.50   |           | 0.50      | ug/L                                 | 11-SEP-19 |                  |  |
| 1,2-Dichloroethane                           | <0.50   |           | 0.50      | ug/L                                 | 11-SEP-19 |                  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| E751900.A.CS.EV.19.19-01              | Page 26 of 40<br>13-SEP-19 12:41 (M |           |        |         |             |                  |
|---------------------------------------|-------------------------------------|-----------|--------|---------|-------------|------------------|
| Sample Details Grouping Analyte       | Result                              | Qualifier | D.L.   | Units   | Analyzed    | Guideline Limits |
| 2343122-10 MW107                      |                                     |           |        |         |             |                  |
| Campled By: V PETERS on 06-SEP-19 @ 1 | 3:20                                |           |        |         |             |                  |
| ' '                                   | 3.20                                |           |        |         |             | #1               |
| Matrix: WATER                         |                                     |           |        |         |             |                  |
| Volatile Organic Compounds            |                                     |           |        |         |             |                  |
| 1,1-Dichloroethylene                  | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| cis-1,2-Dichloroethylene              | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| trans-1,2-Dichloroethylene            | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| Methylene Chloride                    | <5.0                                |           | 5.0    | ug/L    | 11-SEP-19   |                  |
| 1,2-Dichloropropane                   | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| cis-1,3-Dichloropropene               | <0.30                               |           | 0.30   | ug/L    | 11-SEP-19   |                  |
| trans-1,3-Dichloropropene             | <0.30                               |           | 0.30   | ug/L    | 11-SEP-19   |                  |
| 1,3-Dichloropropene (cis & trans)     | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| Ethylbenzene                          | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| n-Hexane                              | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| Methyl Ethyl Ketone                   | <20                                 |           | 20     | ug/L    | 11-SEP-19   |                  |
| Methyl Isobutyl Ketone                | <20                                 |           | 20     | ug/L    | 11-SEP-19   |                  |
| MTBE                                  | <2.0                                |           | 2.0    | ug/L    | 11-SEP-19   |                  |
| Styrene                               | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| 1,1,1,2-Tetrachloroethane             | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| 1,1,2,2-Tetrachloroethane             | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| Tetrachloroethylene                   | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| Toluene                               | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| 1,1,1-Trichloroethane                 | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| 1,1,2-Trichloroethane                 | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| Trichloroethylene                     | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| Trichlorofluoromethane                | <5.0                                |           | 5.0    | ug/L    | 11-SEP-19   |                  |
| Vinyl chloride                        | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| o-Xylene                              | <0.30                               |           | 0.30   | ug/L    | 11-SEP-19   |                  |
| m+p-Xylenes                           | <0.40                               |           | 0.40   | ug/L    | 11-SEP-19   |                  |
| Xylenes (Total)                       | <0.50                               |           | 0.50   | ug/L    | 11-SEP-19   |                  |
| Surrogate: 4-Bromofluorobenzene       | 90.6                                |           | 70-130 | %       | 11-SEP-19   |                  |
| Surrogate: 1,4-Difluorobenzene        | 95.5                                |           | 70-130 | %       | 11-SEP-19   |                  |
| Hydrocarbons                          |                                     |           |        |         |             |                  |
| F1 (C6-C10)                           | <25                                 |           | 25     | ug/L    | 11-SEP-19   |                  |
| F1-BTEX                               | <25                                 |           | 25     | ug/L    | 11-SEP-19   |                  |
| F2 (C10-C16)                          | <100                                |           | 100    | ug/L    | 10-SEP-19   |                  |
| F2-Naphth                             | <100                                |           | 100    | ug/L    | 11-SEP-19   |                  |
| F3 (C16-C34)                          | <250                                |           | 250    | ug/L    | 10-SEP-19   |                  |
| F3-PAH                                | <250                                |           | 250    | ug/L    | 11-SEP-19   |                  |
| F4 (C34-C50)                          | <250                                |           | 250    | ug/L    | 10-SEP-19   |                  |
| Total Hydrocarbons (C6-C50)           | <370                                |           | 370    | ug/L    | 11-SEP-19   |                  |
| Chrom. to baseline at nC50            | YES                                 |           |        | No Unit | 10-SEP-19   |                  |
| Surrogate: 2-Bromobenzotrifluoride    | 94.9                                |           | 60-140 | %       | 10-SEP-19   |                  |
| Surrogate: 3,4-Dichlorotoluene        | 89.7                                |           | 60-140 | %       | 11-SEP-19   |                  |
| Polycyclic Aromatic Hydrocarbons      |                                     |           |        |         |             |                  |
| Acenaphthene                          | <0.020                              |           | 0.020  | ug/L    | 11-SEP-19   |                  |
| Acenaphthylene                        | <0.020                              |           | 0.020  | ug/L    | 11-SEP-19   |                  |
| Anthracene                            | <0.020                              |           | 0.020  | ug/L    | 11-SEP-19   |                  |
| Benzo(a)anthracene                    | <0.020                              |           | 0.020  | ug/L    | 11-SEP-19   |                  |
| Benzo(a)pyrene                        | <0.010                              |           | 0.010  | ug/L    | 11-SEP-19   |                  |
| Benzo(b)fluoranthene                  | <0.020                              |           | 0.020  | ug/L    | 11-SEP-19   |                  |
| Danza(a b i)namilana                  | .0.000                              | 1         | 0.000  | /1      | 1 44 CED 40 |                  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

< 0.020

0.020

ug/L

11-SEP-19

Benzo(g,h,i)perylene

Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01                      |              |           |        |              |                        |       |               | P-19 12:41 (MT) |
|------------------------------------------------|--------------|-----------|--------|--------------|------------------------|-------|---------------|-----------------|
| Sample Details Grouping Analyte                | Result       | Qualifier | D.L.   | Units        | Analyzed               |       | Guideline Lim | its             |
|                                                |              |           |        |              |                        |       | <u> </u>      |                 |
| L2343122-10 MW107                              |              |           |        |              |                        |       |               |                 |
| Sampled By: V PETERS on 06-SEP-19 @ 13         | :20          |           |        |              |                        | #1    |               |                 |
| Matrix: WATER                                  |              |           |        |              |                        |       |               |                 |
| Polycyclic Aromatic Hydrocarbons               |              |           |        |              |                        |       |               |                 |
| Benzo(k)fluoranthene                           | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| Chrysene                                       | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| Dibenzo(ah)anthracene                          | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| Fluoranthene                                   | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| Fluorene                                       | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| Indeno(1,2,3-cd)pyrene                         | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| 1+2-Methylnaphthalenes                         | <0.028       |           | 0.028  | ug/L         | 11-SEP-19              |       |               |                 |
| 1-Methylnaphthalene                            | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| 2-Methylnaphthalene                            | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| Naphthalene                                    | <0.050       |           | 0.050  | ug/L         | 11-SEP-19              |       |               |                 |
| Phenanthrene                                   | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| Pyrene                                         | <0.020       |           | 0.020  | ug/L         | 11-SEP-19              |       |               |                 |
| Surrogate: d10-Acenaphthene                    | 110.5        |           | 60-140 | %            | 11-SEP-19              |       |               |                 |
| Surrogate: d12-Chrysene                        | 116.1        |           | 60-140 | %            | 11-SEP-19              |       |               |                 |
| Surrogate: d8-Naphthalene                      | 112.2        |           | 60-140 | %            | 11-SEP-19              |       |               |                 |
| Surrogate: d10-Phenanthrene                    | 113.4        |           | 60-140 | %            | 11-SEP-19              |       |               |                 |
| L2343122-11 MW106                              |              |           |        |              |                        |       |               |                 |
| Sampled By: V PETERS on 06-SEP-19 @ 14         | :50          |           |        |              |                        |       |               |                 |
| · ·                                            |              |           |        |              |                        | #1    |               |                 |
| Matrix: WATER                                  |              |           |        |              |                        |       |               |                 |
| Physical Tests                                 |              |           |        |              |                        |       |               |                 |
| Conductivity                                   | 6.87         |           | 0.0030 | mS/cm        | 09-SEP-19              | *0.57 |               |                 |
| pН                                             | 7.54         |           | 0.10   | pH units     | 09-SEP-19              |       |               |                 |
| Anions and Nutrients                           |              |           |        |              |                        |       |               |                 |
| Chloride (CI)                                  | 2600         | DLHC      | 10     | mg/L         | 10-SEP-19              |       |               |                 |
| Cyanides                                       |              |           |        |              |                        |       |               |                 |
| Cyanide, Weak Acid Diss                        | <2.0         |           | 2.0    | ug/L         | 10-SEP-19              |       |               |                 |
| Metals                                         |              |           |        | -3-          |                        |       |               |                 |
| Sodium Adsorption Ratio                        | Incalculable | SARING    | 0.10   | SAR          | 10-SEP-19              |       |               |                 |
| Dissolved Metals                               | Incalculable | OAIX.IIVO | 0.10   | OAIX         | 10-021-15              |       |               |                 |
| Dissolved Mercury Filtration Location          | FIELD        |           |        | No Unit      | 09-SEP-19              |       |               |                 |
| Dissolved Metals Filtration Location           | FIELD        |           |        | No Unit      | 09-SEP-19<br>09-SEP-19 |       |               |                 |
| Antimony (Sb)-Dissolved                        | <1.0         | DLHC      | 1.0    |              | 09-SEP-19              |       |               |                 |
| Antimony (Sb)-Dissolved Arsenic (As)-Dissolved | <1.0         | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19<br>09-SEP-19 |       |               |                 |
| Barium (Ba)-Dissolved                          | 179          | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |                 |
| Beryllium (Be)-Dissolved                       | <1.0         | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |                 |
| Boron (B)-Dissolved                            | <100         | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |                 |
| Cadmium (Cd)-Dissolved                         | 0.419        | DLHC      | 0.050  | ug/L<br>ug/L | 09-SEP-19              |       |               |                 |
| Chromium (Cr)-Dissolved                        | <5.0         | DLHC      | 5.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |                 |
| Cobalt (Co)-Dissolved                          | <1.0         | DLHC      | 1.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |                 |
| Copper (Cu)-Dissolved                          | 3.5          | DLHC      | 2.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |                 |
| Lead (Pb)-Dissolved                            | <0.50        | DLHC      | 0.50   | ug/L<br>ug/L | 09-SEP-19              |       |               |                 |
| Mercury (Hg)-Dissolved                         | <0.0050      | DEI 10    | 0.0050 | ug/L<br>ug/L | 10-SEP-19              |       |               |                 |
| Molybdenum (Mo)-Dissolved                      | 1.81         | DLHC      | 0.50   | ug/L         | 09-SEP-19              |       |               |                 |
| Nickel (Ni)-Dissolved                          | <5.0         | DLHC      | 5.0    | ug/L<br>ug/L | 09-SEP-19              |       |               |                 |
| Selenium (Se)-Dissolved                        | 1.11         | DLHC      | 0.50   | ug/L         | 09-SEP-19              |       |               |                 |
| Silver (Ag)-Dissolved                          | <0.50        | DLHC      | 0.50   | ug/L         | 09-SEP-19              |       |               |                 |
|                                                | 3.00         |           |        |              |                        |       |               |                 |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01           |         |             |      |       |             |    |                 | 13-SEP-19 12:41 (MT) |  |  |
|-------------------------------------|---------|-------------|------|-------|-------------|----|-----------------|----------------------|--|--|
| Sample Details Grouping Analyte     | Result  | Qualifier   | D.L. | Units | Analyzed    |    | Guideline Li    | mits                 |  |  |
|                                     |         | - Qualifier |      |       | / Widiy2ca  |    | Cuidelli le Lii | mo                   |  |  |
| L2343122-11 MW106                   |         |             |      |       |             |    |                 |                      |  |  |
| Sampled By: V PETERS on 06-SEP-19 @ | 14:50   |             |      |       |             | #1 |                 |                      |  |  |
| Matrix: WATER                       |         |             |      |       | -           | π1 |                 |                      |  |  |
| Dissolved Metals                    |         |             |      |       |             |    |                 |                      |  |  |
| Sodium (Na)-Dissolved               | 1310000 | DLHC        | 5000 | ug/L  | 10-SEP-19   |    |                 |                      |  |  |
| Thallium (TI)-Dissolved             | <0.10   | DLHC        | 0.10 | ug/L  | 09-SEP-19   |    |                 |                      |  |  |
| Uranium (U)-Dissolved               | 0.85    | DLHC        | 0.10 | ug/L  | 09-SEP-19   |    |                 |                      |  |  |
| Vanadium (V)-Dissolved              | <5.0    | DLHC        | 5.0  | ug/L  | 09-SEP-19   |    |                 |                      |  |  |
| Zinc (Zn)-Dissolved                 | 14      | DLHC        | 10   | ug/L  | 09-SEP-19   |    |                 |                      |  |  |
| Speciated Metals                    |         |             |      |       |             |    |                 |                      |  |  |
| Chromium, Hexavalent                | 1.87    |             | 0.50 | ug/L  | 10-SEP-19   |    |                 |                      |  |  |
| Volatile Organic Compounds          |         |             |      |       |             |    |                 |                      |  |  |
| Acetone                             | <30     |             | 30   | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Benzene                             | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Bromodichloromethane                | <2.0    |             | 2.0  | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Bromoform                           | <5.0    |             | 5.0  | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Bromomethane                        | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Carbon tetrachloride                | <0.20   |             | 0.20 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Chlorobenzene                       | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Dibromochloromethane                | <2.0    |             | 2.0  | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Chloroform                          | 8.5     |             | 1.0  | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,2-Dibromoethane                   | <0.20   |             | 0.20 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,2-Dichlorobenzene                 | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,3-Dichlorobenzene                 | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,4-Dichlorobenzene                 | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Dichlorodifluoromethane             | <2.0    |             | 2.0  | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,1-Dichloroethane                  | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,2-Dichloroethane                  | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,1-Dichloroethylene                | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| cis-1,2-Dichloroethylene            | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| trans-1,2-Dichloroethylene          | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Methylene Chloride                  | <5.0    |             | 5.0  | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,2-Dichloropropane                 | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| cis-1,3-Dichloropropene             | < 0.30  |             | 0.30 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| trans-1,3-Dichloropropene           | < 0.30  |             | 0.30 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,3-Dichloropropene (cis & trans)   | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Ethylbenzene                        | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| n-Hexane                            | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Methyl Ethyl Ketone                 | <20     |             | 20   | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Methyl Isobutyl Ketone              | <20     |             | 20   | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| MTBE                                | <2.0    |             | 2.0  | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Styrene                             | < 0.50  |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,1,1,2-Tetrachloroethane           | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,1,2,2-Tetrachloroethane           | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Tetrachloroethylene                 | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Toluene                             | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,1,1-Trichloroethane               | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| 1,1,2-Trichloroethane               | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Trichloroethylene                   | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Trichlorofluoromethane              | <5.0    |             | 5.0  | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| Vinyl chloride                      | <0.50   |             | 0.50 | ug/L  | 11-SEP-19   |    |                 |                      |  |  |
| - V. J                              | 0.00    | 1           | 0.00 | 1     | 1 44 OFD 40 |    | 1 1             |                      |  |  |

ug/L Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

< 0.30

0.30

11-SEP-19

o-Xylene

Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| E751900.A.CS.EV.19.19-01                              | ANALT          | IICAL     | GUID             | ELINE     | KEPUR                  | K I      | Page 29<br>13-SEP-19 12 |   |
|-------------------------------------------------------|----------------|-----------|------------------|-----------|------------------------|----------|-------------------------|---|
| Sample Details                                        | December       | 0         | D.1              | 11-20-    |                        |          |                         | ( |
| Grouping Analyte                                      | Result         | Qualifier | D.L.             | Units     | Analyzed               | <u> </u> | Guideline Limits        |   |
| .2343122-11 MW106                                     |                |           |                  |           |                        |          |                         |   |
| Sampled By: V PETERS on 06-SEP-19 @ 1                 | 14:50          |           |                  |           |                        |          |                         |   |
| Matrix: WATER                                         |                |           |                  |           |                        | #1       |                         |   |
| Volatile Organic Compounds                            |                |           |                  |           |                        |          |                         |   |
| m+p-Xylenes                                           | <0.40          |           | 0.40             | ug/L      | 11-SEP-19              |          |                         |   |
| Xylenes (Total)                                       | <0.50          |           | 0.50             | ug/L      | 11-SEP-19              |          |                         |   |
| Surrogate: 4-Bromofluorobenzene                       | 90.8           |           | 70-130           | %         | 11-SEP-19              |          |                         |   |
| Surrogate: 1,4-Difluorobenzene                        | 95.6           |           | 70-130           | %         | 11-SEP-19              |          |                         |   |
| Hydrocarbons                                          |                |           |                  |           |                        |          |                         |   |
| F1 (C6-C10)                                           | <25            |           | 25               | ug/L      | 11-SEP-19              |          |                         |   |
| F1-BTEX                                               | <25            |           | 25               | ug/L      | 11-SEP-19              |          |                         |   |
| F2 (C10-C16)                                          | <100           |           | 100              | ug/L      | 10-SEP-19              |          |                         |   |
| F2-Naphth                                             | <100           |           | 100              | ug/L      | 11-SEP-19              |          |                         |   |
| F3 (C16-C34)                                          | <250           |           | 250              | ug/L      | 10-SEP-19              |          |                         |   |
| F3-PAH                                                | <250           |           | 250              | ug/L      | 11-SEP-19              |          |                         |   |
| F4 (C34-C50)                                          | <250           |           | 250              | ug/L      | 10-SEP-19              |          |                         |   |
| Total Hydrocarbons (C6-C50)                           | <370           |           | 370              | ug/L      | 11-SEP-19              |          |                         |   |
| Chrom. to baseline at nC50                            | YES            |           |                  | No Unit   | 10-SEP-19              |          |                         |   |
| Surrogate: 2-Bromobenzotrifluoride                    | 91.1           |           | 60-140           | %         | 10-SEP-19              |          |                         |   |
| Surrogate: 3,4-Dichlorotoluene                        | 88.8           |           | 60-140           | %         | 11-SEP-19              |          |                         |   |
| Polycyclic Aromatic Hydrocarbons                      |                |           |                  |           |                        |          |                         |   |
| Acenaphthene                                          | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Acenaphthylene                                        | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Anthracene                                            | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Benzo(a)anthracene                                    | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Benzo(a)pyrene                                        | <0.010         |           | 0.010            | ug/L      | 11-SEP-19              |          |                         |   |
| Benzo(b)fluoranthene                                  | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Benzo(g,h,i)perylene                                  | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Benzo(k)fluoranthene                                  | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Chrysene                                              | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Dibenzo(ah)anthracene                                 | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Fluoranthene                                          | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Fluorene                                              | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Indeno(1,2,3-cd)pyrene                                | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| 1+2-Methylnaphthalenes                                | <0.028         |           | 0.028            | ug/L      | 11-SEP-19              |          |                         |   |
| 1-Methylnaphthalene                                   | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| 2-Methylnaphthalene                                   | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Naphthalene                                           | <0.050         |           | 0.050            | ug/L      | 11-SEP-19              |          |                         |   |
| Phenanthrene                                          | <0.020         |           | 0.020            | ug/L      | 11-SEP-19              |          |                         |   |
| Pyrene                                                | <0.020         |           | 0.020<br>60-140  | ug/L<br>% | 11-SEP-19              |          |                         |   |
| Surrogate: d12 Christian                              | 110.9          |           |                  |           | 11-SEP-19              |          |                         |   |
| Surrogate: d12-Chrysene Surrogate: d8-Naphthalene     | 115.7<br>112.9 |           | 60-140<br>60-140 | %<br>%    | 11-SEP-19<br>11-SEP-19 |          |                         |   |
| Surrogate: do-Naprimalene Surrogate: d10-Phenanthrene | 112.9          |           | 60-140           | %<br>%    | 11-SEP-19<br>11-SEP-19 |          |                         |   |
| <del>-</del>                                          | 111.0          |           | 00-140           | /0        | 11-355-19              |          |                         |   |
| _2343122-12 DUP1                                      |                |           |                  |           |                        |          |                         |   |
| Sampled By: V PETERS on 05-SEP-19 @ 0                 | 09:50          |           |                  |           |                        |          |                         |   |
| Matrix: WATER                                         |                |           |                  |           |                        | #1       |                         |   |
| Physical Tests                                        |                |           |                  |           |                        |          |                         |   |
| Conductivity                                          | 14.5           |           | 0.0030           | mS/cm     | 09-SEP-19              | *0.57    |                         |   |
| pH                                                    | 7.44           |           | 0.0030           | pH units  | 09-SEP-19              | 0.57     |                         |   |
| ρπ                                                    | 7.44           |           | 0.10             | Pridilis  | 09-3EF-19              |          |                         |   |

<sup>\*\*</sup> 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:



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| E751900.A.CS.EV.19.19-01              | ANALI   | IIOAL     | GOID   |         | KLFON      | \     | Page 30 of 40<br>13-SEP-19 12:41 (M |
|---------------------------------------|---------|-----------|--------|---------|------------|-------|-------------------------------------|
| Sample Details<br>Grouping Analyte    | Result  | Qualifier | D.L.   | Units   | Analyzed   | Gu    | ideline Limits                      |
| _2343122-12 DUP1                      |         |           |        |         |            |       |                                     |
| Sampled By: V PETERS on 05-SEP-19 @ 0 | 9:50    |           |        |         |            |       |                                     |
| Matrix: WATER                         |         |           |        |         |            | #1    |                                     |
| Anions and Nutrients                  |         |           |        |         |            |       |                                     |
|                                       | 4000    | DILLIC    | F0     |         | 10 CED 10  |       |                                     |
| Chloride (CI)  Cyanides               | 4980    | DLHC      | 50     | mg/L    | 10-SEP-19  |       |                                     |
| Cyanide, Weak Acid Diss<br>Metals     | 2.5     |           | 2.0    | ug/L    | 10-SEP-19  |       |                                     |
| Sodium Adsorption Ratio               | <130    | SAR:DL    | 130    | SAR     | 10-SEP-19  | **2.4 |                                     |
| Dissolved Metals                      | V130    | OAIX.DE   | 130    | OAIX    | 10 021 -13 | 2.4   |                                     |
| Dissolved Mercury Filtration Location | FIELD   |           |        | No Unit | 09-SEP-19  |       |                                     |
| Dissolved Metals Filtration Location  | FIELD   |           |        | No Unit | 09-SEP-19  |       |                                     |
| Antimony (Sb)-Dissolved               | <1.0    | DLHC      | 1.0    | ug/L    | 09-SEP-19  |       |                                     |
| Arsenic (As)-Dissolved                | 1.2     | DLHC      | 1.0    | ug/L    | 09-SEP-19  |       |                                     |
| Barium (Ba)-Dissolved                 | 403     | DLHC      | 1.0    | ug/L    | 09-SEP-19  |       |                                     |
| Beryllium (Be)-Dissolved              | <1.0    | DLHC      | 1.0    | ug/L    | 09-SEP-19  |       |                                     |
| Boron (B)-Dissolved                   | <100    | DLHC      | 100    | ug/L    | 09-SEP-19  |       |                                     |
| Cadmium (Cd)-Dissolved                | 0.134   | DLHC      | 0.050  | ug/L    | 09-SEP-19  |       |                                     |
| Chromium (Cr)-Dissolved               | <5.0    | DLHC      | 5.0    | ug/L    | 09-SEP-19  |       |                                     |
| Cobalt (Co)-Dissolved                 | <1.0    | DLHC      | 1.0    | ug/L    | 09-SEP-19  |       |                                     |
| Copper (Cu)-Dissolved                 | 3.1     | DLHC      | 2.0    | ug/L    | 09-SEP-19  |       |                                     |
| Lead (Pb)-Dissolved                   | <0.50   | DLHC      | 0.50   | ug/L    | 09-SEP-19  |       |                                     |
| Mercury (Hg)-Dissolved                | <0.0050 | DE1.10    | 0.0050 | ug/L    | 10-SEP-19  |       |                                     |
| Molybdenum (Mo)-Dissolved             | 4.87    | DLHC      | 0.50   | ug/L    | 09-SEP-19  |       |                                     |
| Nickel (Ni)-Dissolved                 | <5.0    | DLHC      | 5.0    | ug/L    | 09-SEP-19  |       |                                     |
| Selenium (Se)-Dissolved               | 0.55    | DLHC      | 0.50   | ug/L    | 09-SEP-19  |       |                                     |
| Silver (Ag)-Dissolved                 | <0.50   | DLHC      | 0.50   | ug/L    | 09-SEP-19  |       |                                     |
| Sodium (Na)-Dissolved                 | 3150000 | DLHC      | 5000   | ug/L    | 10-SEP-19  |       |                                     |
| Thallium (TI)-Dissolved               | 0.12    | DLHC      | 0.10   | ug/L    | 09-SEP-19  |       |                                     |
| Uranium (U)-Dissolved                 | 4.70    | DLHC      | 0.10   | ug/L    | 09-SEP-19  |       |                                     |
| Vanadium (V)-Dissolved                | <5.0    | DLHC      | 5.0    | ug/L    | 09-SEP-19  |       |                                     |
| Zinc (Zn)-Dissolved                   | <10     | DLHC      | 10     | ug/L    | 09-SEP-19  |       |                                     |
| Speciated Metals                      |         | 52.10     |        | ug/_    | 00 021 10  |       |                                     |
| Chromium, Hexavalent                  | <0.50   |           | 0.50   | ug/L    | 10-SEP-19  |       |                                     |
| Volatile Organic Compounds            |         |           |        |         |            |       |                                     |
| Acetone                               | <30     |           | 30     | ug/L    | 11-SEP-19  |       |                                     |
| Benzene                               | <0.50   |           | 0.50   | ug/L    | 11-SEP-19  |       |                                     |
| Bromodichloromethane                  | <2.0    |           | 2.0    | ug/L    | 11-SEP-19  |       |                                     |
| Bromoform                             | <5.0    |           | 5.0    | ug/L    | 11-SEP-19  |       |                                     |
| Bromomethane                          | <0.50   |           | 0.50   | ug/L    | 11-SEP-19  |       |                                     |
| Carbon tetrachloride                  | <0.20   |           | 0.20   | ug/L    | 11-SEP-19  |       |                                     |
| Chlorobenzene                         | <0.50   |           | 0.50   | ug/L    | 11-SEP-19  |       |                                     |
| Dibromochloromethane                  | <2.0    |           | 2.0    | ug/L    | 11-SEP-19  |       |                                     |
| Chloroform                            | <1.0    |           | 1.0    | ug/L    | 11-SEP-19  |       |                                     |
| 1,2-Dibromoethane                     | <0.20   |           | 0.20   | ug/L    | 11-SEP-19  |       |                                     |
| 1,2-Dichlorobenzene                   | <0.50   |           | 0.50   | ug/L    | 11-SEP-19  |       |                                     |
| 1,3-Dichlorobenzene                   | <0.50   |           | 0.50   | ug/L    | 11-SEP-19  |       |                                     |
| 1,4-Dichlorobenzene                   | <0.50   |           | 0.50   | ug/L    | 11-SEP-19  |       |                                     |
| Dichlorodifluoromethane               | <2.0    |           | 2.0    | ug/L    | 11-SEP-19  |       |                                     |
| 1,1-Dichloroethane                    | <0.50   |           | 0.50   | ug/L    | 11-SEP-19  |       |                                     |
| 1,2-Dichloroethane                    | < 0.50  |           | 0.50   | ug/L    | 11-SEP-19  |       |                                     |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01                                       | ANALI   | IICAL     | GUID   | CLINE   | KEPUR     | Page 31 of 40<br>13-SEP-19 12:41 (MT |
|-----------------------------------------------------------------|---------|-----------|--------|---------|-----------|--------------------------------------|
| Sample Details Grouping Analyte                                 | Result  | Qualifier | D.L.   | Units   | Analyzed  | Guideline Limits                     |
|                                                                 | INCOUNT | Qualifier |        |         | Allalyzeu | Guideline Limits                     |
| L2343122-12 DUP1                                                |         |           |        |         |           |                                      |
| Sampled By: V PETERS on 05-SEP-19 @ 09                          | 9:50    |           |        |         |           | #1                                   |
| Matrix: WATER                                                   |         |           |        |         |           | #1                                   |
| Volatile Organic Compounds                                      |         |           |        |         |           |                                      |
| 1,1-Dichloroethylene                                            | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| cis-1,2-Dichloroethylene                                        | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| trans-1,2-Dichloroethylene                                      | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| Methylene Chloride                                              | <5.0    |           | 5.0    | ug/L    | 11-SEP-19 |                                      |
| 1,2-Dichloropropane                                             | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| cis-1,3-Dichloropropene                                         | <0.30   |           | 0.30   | ug/L    | 11-SEP-19 |                                      |
| trans-1,3-Dichloropropene                                       | < 0.30  |           | 0.30   | ug/L    | 11-SEP-19 |                                      |
| 1,3-Dichloropropene (cis & trans)                               | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| Ethylbenzene                                                    | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| n-Hexane                                                        | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| Methyl Ethyl Ketone                                             | <20     |           | 20     | ug/L    | 11-SEP-19 |                                      |
| Methyl Isobutyl Ketone                                          | <20     |           | 20     | ug/L    | 11-SEP-19 |                                      |
| MTBE                                                            | <2.0    |           | 2.0    | ug/L    | 11-SEP-19 |                                      |
| Styrene                                                         | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| 1,1,1,2-Tetrachloroethane                                       | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| 1,1,2,2-Tetrachloroethane                                       | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| Tetrachloroethylene                                             | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| Toluene                                                         | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| 1,1,1-Trichloroethane                                           | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| 1,1,2-Trichloroethane                                           | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| Trichloroethylene                                               | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| Trichlorofluoromethane                                          | <5.0    |           | 5.0    | ug/L    | 11-SEP-19 |                                      |
| Vinyl chloride                                                  | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| o-Xylene                                                        | <0.30   |           | 0.30   | ug/L    | 11-SEP-19 |                                      |
| m+p-Xylenes                                                     | <0.40   |           | 0.40   | ug/L    | 11-SEP-19 |                                      |
| Xylenes (Total)                                                 | <0.50   |           | 0.50   | ug/L    | 11-SEP-19 |                                      |
| Surrogate: 4-Bromofluorobenzene                                 | 89.7    |           | 70-130 | %       | 11-SEP-19 |                                      |
| Surrogate: 1,4-Difluorobenzene                                  | 95.7    |           | 70-130 | %       | 11-SEP-19 |                                      |
| Hydrocarbons                                                    |         |           |        |         |           |                                      |
| F1 (C6-C10)                                                     | <25     |           | 25     | ug/L    | 11-SEP-19 |                                      |
| F1-BTEX                                                         | <25     |           | 25     | ug/L    | 11-SEP-19 |                                      |
| F2 (C10-C16)                                                    | <100    |           | 100    | ug/L    | 10-SEP-19 |                                      |
| F2-Naphth                                                       | <100    |           | 100    | ug/L    | 11-SEP-19 |                                      |
| F3 (C16-C34)                                                    | <250    |           | 250    | ug/L    | 10-SEP-19 |                                      |
| F3-PAH                                                          | <250    |           | 250    | ug/L    | 11-SEP-19 |                                      |
| F4 (C34-C50)                                                    | <250    |           | 250    | ug/L    | 10-SEP-19 |                                      |
| Total Hydrocarbons (C6-C50)                                     | <370    |           | 370    | ug/L    | 11-SEP-19 |                                      |
| Chrom. to baseline at nC50                                      | YES     |           | 00.440 | No Unit | 10-SEP-19 |                                      |
| Surrogate: 2-Bromobenzotrifluoride                              | 90.0    |           | 60-140 | %       | 10-SEP-19 |                                      |
| Surrogate: 3,4-Dichlorotoluene Polycyclic Aromatic Hydrocarbons | 74.3    |           | 60-140 | %       | 11-SEP-19 |                                      |
|                                                                 | -0.000  |           | 0.020  | //      | 11 SED 10 |                                      |
| Acenaphthylana                                                  | <0.020  |           | 0.020  | ug/L    | 11-SEP-19 |                                      |
| Acenaphthylene                                                  | <0.020  |           | 0.020  | ug/L    | 11-SEP-19 |                                      |
| Anthracene                                                      | <0.020  |           | 0.020  | ug/L    | 11-SEP-19 |                                      |
| Benzo(a)anthracene                                              | <0.020  |           | 0.020  | ug/L    | 11-SEP-19 |                                      |
| Benzo(a)pyrene                                                  | <0.010  |           | 0.010  | ug/L    | 11-SEP-19 |                                      |
| Benzo(b)fluoranthene                                            | <0.020  |           | 0.020  | ug/L    | 11-SEP-19 |                                      |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

< 0.020

ug/L

11-SEP-19

Benzo(g,h,i)perylene

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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13-SEP-19 12:41 (MT)

| 751900.A.CS.EV.19.19-01                                                  | <b>\ I</b> | Page 32 of 40<br>13-SEP-19 12:41 (MT) |        |       |           |       |                  |  |
|--------------------------------------------------------------------------|------------|---------------------------------------|--------|-------|-----------|-------|------------------|--|
| Sample Details<br>Grouping Analyte                                       | Result     | Qualifier                             | D.L.   | Units | Analyzed  |       | Guideline Limits |  |
| 2343122-12 DUP1                                                          |            |                                       |        |       |           |       |                  |  |
| Sampled By: V PETERS on 05-SEP-19 @ 0                                    | 9:50       |                                       |        |       |           |       |                  |  |
| Matrix: WATER                                                            |            |                                       |        |       |           | #1    |                  |  |
| Polycyclic Aromatic Hydrocarbons                                         |            |                                       |        |       |           |       |                  |  |
| Benzo(k)fluoranthene                                                     | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| Chrysene                                                                 | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| Dibenzo(ah)anthracene                                                    | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| Fluoranthene                                                             | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| Fluorene                                                                 | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| Indeno(1,2,3-cd)pyrene                                                   | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| 1+2-Methylnaphthalenes                                                   | <0.028     |                                       | 0.028  | ug/L  | 11-SEP-19 |       |                  |  |
| 1-Methylnaphthalene                                                      | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| 2-Methylnaphthalene                                                      | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| Naphthalene                                                              | <0.050     |                                       | 0.050  | ug/L  | 11-SEP-19 |       |                  |  |
| Phenanthrene                                                             | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| Pyrene                                                                   | <0.020     |                                       | 0.020  | ug/L  | 11-SEP-19 |       |                  |  |
| Surrogate: d10-Acenaphthene                                              | 116.4      |                                       | 60-140 | %     | 11-SEP-19 |       |                  |  |
| Surrogate: d12-Chrysene                                                  | 119.5      |                                       | 60-140 | %     | 11-SEP-19 |       |                  |  |
| Surrogate: d8-Naphthalene                                                | 117.4      |                                       | 60-140 | %     | 11-SEP-19 |       |                  |  |
| Surrogate: d10-Phenanthrene                                              | 117.1      |                                       | 60-140 | %     | 11-SEP-19 |       |                  |  |
| 2343122-13 DUP2<br>ampled By: V PETERS on 06-SEP-19 @ 0<br>/atrix: WATER | 09:50      |                                       |        |       |           | #1    |                  |  |
| Semi-Volatile Organics                                                   |            |                                       |        |       |           |       |                  |  |
| Biphenyl                                                                 | <0.40      |                                       | 0.40   | ug/L  | 13-SEP-19 |       |                  |  |
| 4-Chloroaniline                                                          | <0.40      |                                       | 0.40   | ug/L  | 13-SEP-19 |       |                  |  |
| Bis(2-chloroethyl)ether                                                  | <0.40      |                                       | 0.40   | ug/L  | 13-SEP-19 |       |                  |  |
| Bis(2-chloroisopropyl)ether                                              | <0.40      |                                       | 0.40   | ug/L  | 13-SEP-19 |       |                  |  |
| 3,3'-Dichlorobenzidine                                                   | <0.40      |                                       | 0.40   | ug/L  | 13-SEP-19 |       |                  |  |
| Diethylphthalate                                                         | <0.20      |                                       | 0.20   | ug/L  | 13-SEP-19 |       |                  |  |
| Dimethylphthalate                                                        | <0.20      |                                       | 0.20   | ug/L  | 13-SEP-19 |       |                  |  |
| 2,4-Dimethylphenol                                                       | <0.50      |                                       | 0.50   | ug/L  | 13-SEP-19 |       |                  |  |
| 2,4-Dinitrophenol                                                        | <1.0       |                                       | 1.0    | ug/L  | 13-SEP-19 |       |                  |  |
| 2,4-Dinitrotoluene                                                       | <0.40      |                                       | 0.40   | ug/L  | 13-SEP-19 |       |                  |  |
| 2,6-Dinitrotoluene                                                       | <0.40      |                                       | 0.40   | ug/L  | 13-SEP-19 |       |                  |  |
| 2,4+2,6-Dinitrotoluene                                                   | <0.57      |                                       | 0.57   | ug/L  | 13-SEP-19 |       |                  |  |
| Bis(2-ethylhexyl)phthalate                                               | 2.3        |                                       | 2.0    | ug/L  | 13-SEP-19 |       |                  |  |
| Phenol                                                                   | <0.50      |                                       | 0.50   | ug/L  | 13-SEP-19 |       |                  |  |
| 1,2,4-Trichlorobenzene                                                   | <0.40      |                                       | 0.40   | ug/L  | 13-SEP-19 |       |                  |  |
| Surrogate: 2-Fluorobiphenyl                                              | 97.0       |                                       | 50-140 | %     | 13-SEP-19 |       |                  |  |
| Surrogate: Nitrobenzene d5                                               | 102.8      |                                       | 50-140 | %     | 13-SEP-19 |       |                  |  |
| Surrogate: Phenol d5                                                     | 51.5       |                                       | 30-130 | %     | 13-SEP-19 |       |                  |  |
| Surrogate: p-Terphenyl d14                                               | 109.0      |                                       | 60-140 | %     | 13-SEP-19 |       |                  |  |
| Surrogate: 2,4,6-Tribromophenol                                          | 109.8      |                                       | 50-140 | %     | 13-SEP-19 |       |                  |  |
| 2343122-14 DUP3                                                          |            |                                       |        |       |           |       |                  |  |
| Sampled By: V PETERS on 05-SEP-19 @ 0                                    | 9:50       |                                       |        |       |           |       |                  |  |
| Matrix: WATER                                                            |            |                                       |        |       |           | #1    |                  |  |
|                                                                          |            |                                       |        |       |           |       |                  |  |
| Physical Tests                                                           |            |                                       |        | _     |           |       |                  |  |
| Conductivity                                                             | 3.17       |                                       | 0.0030 | mS/cm | 09-SEP-19 | *0.57 |                  |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01                      | ANALI         | IICAL     | GUID       | ELINE        | KEPUR                  | <b>(                                    </b> | Page 33<br>13-SEP-19 12: |  |
|------------------------------------------------|---------------|-----------|------------|--------------|------------------------|----------------------------------------------|--------------------------|--|
| Sample Details Grouping Analyte                | Result        | Qualifier | D.L.       | Units        | Analyzed               |                                              | Guideline Limits         |  |
| .2343122-14 DUP3                               |               |           |            |              |                        |                                              |                          |  |
| Sampled By: V PETERS on 05-SEP-19 @ 09         | 9:50          |           |            |              |                        |                                              |                          |  |
| Matrix: WATER                                  |               |           |            |              |                        | #1                                           |                          |  |
| Physical Tests                                 |               |           |            |              |                        |                                              |                          |  |
| pH                                             | 7.66          |           | 0.10       | pH units     | 09-SEP-19              |                                              |                          |  |
| Anions and Nutrients                           | 7.00          |           | 0.10       | pri units    | 09-3EF-19              |                                              |                          |  |
|                                                | 040           | DILLIC    | F 0        |              | 40.050.40              |                                              |                          |  |
| Chloride (CI)  Cyanides                        | 918           | DLHC      | 5.0        | mg/L         | 10-SEP-19              |                                              |                          |  |
|                                                | .0.0          |           | 0.0        | /1           | 40.050.40              |                                              |                          |  |
| Cyanide, Weak Acid Diss  Metals                | <2.0          |           | 2.0        | ug/L         | 10-SEP-19              |                                              |                          |  |
|                                                | . 5.0         | CADI      | 0.40       | CAD          | 40.050.40              | *0.4                                         |                          |  |
| Sodium Adsorption Ratio  Dissolved Metals      | >5.8          | SAR:L     | 0.10       | SAR          | 10-SEP-19              | *2.4                                         |                          |  |
|                                                |               |           |            |              |                        |                                              |                          |  |
| Dissolved Mercury Filtration Location          | FIELD         |           |            | No Unit      | 09-SEP-19              |                                              |                          |  |
| Dissolved Metals Filtration Location           | FIELD<br><1.0 | DLHC      | 10         | No Unit      | 09-SEP-19<br>09-SEP-19 |                                              |                          |  |
| Antimony (Sb)-Dissolved Arsenic (As)-Dissolved | <1.0<br><1.0  | DLHC      | 1.0<br>1.0 | ug/L<br>ug/L | 09-SEP-19<br>09-SEP-19 |                                              |                          |  |
| Barium (Ba)-Dissolved                          | 99.2          | DLHC      | 1.0        | ug/L<br>ug/L | 09-SEP-19<br>09-SEP-19 |                                              |                          |  |
| Beryllium (Be)-Dissolved                       | <1.0          | DLHC      | 1.0        | ug/L         | 09-SEP-19              |                                              |                          |  |
| Boron (B)-Dissolved                            | <100          | DLHC      | 100        | ug/L         | 09-SEP-19              |                                              |                          |  |
| Cadmium (Cd)-Dissolved                         | 2.98          | DLHC      | 0.050      | ug/L         | 09-SEP-19              |                                              |                          |  |
| Chromium (Cr)-Dissolved                        | <5.0          | DLHC      | 5.0        | ug/L         | 09-SEP-19              |                                              |                          |  |
| Cobalt (Co)-Dissolved                          | <1.0          | DLHC      | 1.0        | ug/L         | 09-SEP-19              |                                              |                          |  |
| Copper (Cu)-Dissolved                          | 2.4           | DLHC      | 2.0        | ug/L         | 09-SEP-19              |                                              |                          |  |
| Lead (Pb)-Dissolved                            | <0.50         | DLHC      | 0.50       | ug/L         | 09-SEP-19              |                                              |                          |  |
| Mercury (Hg)-Dissolved                         | 0.0054        |           | 0.0050     | ug/L         | 10-SEP-19              |                                              |                          |  |
| Molybdenum (Mo)-Dissolved                      | 1.14          | DLHC      | 0.50       | ug/L         | 09-SEP-19              |                                              |                          |  |
| Nickel (Ni)-Dissolved                          | <5.0          | DLHC      | 5.0        | ug/L         | 09-SEP-19              |                                              |                          |  |
| Selenium (Se)-Dissolved                        | 1.01          | DLHC      | 0.50       | ug/L         | 09-SEP-19              |                                              |                          |  |
| Silver (Ag)-Dissolved                          | <0.50         | DLHC      | 0.50       | ug/L         | 09-SEP-19              |                                              |                          |  |
| Sodium (Na)-Dissolved                          | 506000        | DLHC      | 500        | ug/L         | 09-SEP-19              |                                              |                          |  |
| Thallium (TI)-Dissolved                        | <0.10         | DLHC      | 0.10       | ug/L         | 09-SEP-19              |                                              |                          |  |
| Uranium (U)-Dissolved                          | 0.60          | DLHC      | 0.10       | ug/L         | 09-SEP-19              |                                              |                          |  |
| Vanadium (V)-Dissolved                         | <5.0<br>14    | DLHC      | 5.0<br>10  | ug/L         | 09-SEP-19              |                                              |                          |  |
| Zinc (Zn)-Dissolved Speciated Metals           | 14            | DLHC      | 10         | ug/L         | 09-SEP-19              |                                              |                          |  |
| Chromium, Hexavalent                           | 3.62          |           | 0.50       |              | 10-SEP-19              |                                              |                          |  |
| Volatile Organic Compounds                     | 3.02          |           | 0.50       | ug/L         | 10-357-19              |                                              |                          |  |
| ·                                              | -20           |           | 20         | lug/l        | 11 SED 10              |                                              |                          |  |
| Acetone<br>Benzene                             | <30<br><0.50  |           | 30<br>0.50 | ug/L         | 11-SEP-19<br>11-SEP-19 |                                              |                          |  |
| Bromodichloromethane                           | <0.50         |           | 2.0        | ug/L<br>ug/L | 11-SEP-19<br>11-SEP-19 |                                              |                          |  |
| Bromoform                                      | <5.0          |           | 5.0        | ug/L<br>ug/L | 11-SEP-19              |                                              |                          |  |
| Bromomethane                                   | <0.50         |           | 0.50       | ug/L         | 11-SEP-19              |                                              |                          |  |
| Carbon tetrachloride                           | <0.20         |           | 0.20       | ug/L         | 11-SEP-19              |                                              |                          |  |
| Chlorobenzene                                  | <0.50         |           | 0.50       | ug/L         | 11-SEP-19              |                                              |                          |  |
| Dibromochloromethane                           | <2.0          |           | 2.0        | ug/L         | 11-SEP-19              |                                              |                          |  |
| Chloroform                                     | 11.6          |           | 1.0        | ug/L         | 11-SEP-19              |                                              |                          |  |
| 1,2-Dibromoethane                              | <0.20         |           | 0.20       | ug/L         | 11-SEP-19              |                                              |                          |  |
| 1,2-Dichlorobenzene                            | <0.50         |           | 0.50       | ug/L         | 11-SEP-19              |                                              |                          |  |
| 1,3-Dichlorobenzene                            | <0.50         |           | 0.50       | ug/L         | 11-SEP-19              |                                              |                          |  |
| 1,4-Dichlorobenzene                            | <0.50         |           | 0.50       | ug/L         | 11-SEP-19              |                                              |                          |  |
| Dichlorodifluoromethane                        | -20           | 1         | 2.0        | ua/l         | 11_SED_10              |                                              |                          |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<2.0

ug/L

11-SEP-19

Dichlorodifluoromethane

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900.A.CS.EV.19.19-01              |        |           |        |         |             | . • |                  | 12:41 (MT) |
|----------------------------------------|--------|-----------|--------|---------|-------------|-----|------------------|------------|
| Sample Details Grouping Analyte        | Result | Qualifier | D.L.   | Units   | Analyzed    |     | Guideline Limits |            |
| · · · · · · · · · · · · · · · · · · ·  |        |           | <br>   |         |             |     | Calabinio Emilio |            |
| L2343122-14 DUP3                       |        |           |        |         |             |     |                  |            |
| Sampled By: V PETERS on 05-SEP-19 @ 09 | :50    |           |        |         |             | #1  |                  |            |
| Matrix: WATER                          |        |           |        |         |             |     |                  |            |
| Volatile Organic Compounds             |        |           |        |         |             |     |                  |            |
| 1,1-Dichloroethane                     | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| 1,2-Dichloroethane                     | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| 1,1-Dichloroethylene                   | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| cis-1,2-Dichloroethylene               | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| trans-1,2-Dichloroethylene             | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| Methylene Chloride                     | <5.0   |           | 5.0    | ug/L    | 11-SEP-19   |     |                  |            |
| 1,2-Dichloropropane                    | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| cis-1,3-Dichloropropene                | < 0.30 |           | 0.30   | ug/L    | 11-SEP-19   |     |                  |            |
| trans-1,3-Dichloropropene              | < 0.30 |           | 0.30   | ug/L    | 11-SEP-19   |     |                  |            |
| 1,3-Dichloropropene (cis & trans)      | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| Ethylbenzene                           | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| n-Hexane                               | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| Methyl Ethyl Ketone                    | <20    |           | 20     | ug/L    | 11-SEP-19   |     |                  |            |
| Methyl Isobutyl Ketone                 | <20    |           | 20     | ug/L    | 11-SEP-19   |     |                  |            |
| MTBE                                   | <2.0   |           | 2.0    | ug/L    | 11-SEP-19   |     |                  |            |
| Styrene                                | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| 1,1,1,2-Tetrachloroethane              | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| 1,1,2,2-Tetrachloroethane              | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| Tetrachloroethylene                    | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| Toluene                                | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| 1,1,1-Trichloroethane                  | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| 1,1,2-Trichloroethane                  | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| Trichloroethylene                      | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| Trichlorofluoromethane                 | <5.0   |           | 5.0    | ug/L    | 11-SEP-19   |     |                  |            |
| Vinyl chloride                         | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| o-Xylene                               | <0.30  |           | 0.30   | ug/L    | 11-SEP-19   |     |                  |            |
| m+p-Xylenes                            | <0.40  |           | 0.40   | ug/L    | 11-SEP-19   |     |                  |            |
| Xylenes (Total)                        | <0.50  |           | 0.50   | ug/L    | 11-SEP-19   |     |                  |            |
| Surrogate: 4-Bromofluorobenzene        | 91.2   |           | 70-130 | %       | 11-SEP-19   |     |                  |            |
| Surrogate: 1,4-Difluorobenzene         | 95.9   |           | 70-130 | %       | 11-SEP-19   |     |                  |            |
| Hydrocarbons                           |        |           |        |         |             |     |                  |            |
| F1 (C6-C10)                            | <25    |           | 25     | ug/L    | 11-SEP-19   |     |                  |            |
| F1-BTEX                                | <25    |           | 25     | ug/L    | 11-SEP-19   |     |                  |            |
| F2 (C10-C16)                           | <100   |           | 100    | ug/L    | 10-SEP-19   |     |                  |            |
| F2-Naphth                              | <100   |           | 100    | ug/L    | 11-SEP-19   |     |                  |            |
| F3 (C16-C34)                           | <250   |           | 250    | ug/L    | 10-SEP-19   |     |                  |            |
| F3-PAH                                 | <250   |           | 250    | ug/L    | 11-SEP-19   |     |                  |            |
| F4 (C34-C50)                           | <250   |           | 250    | ug/L    | 10-SEP-19   |     |                  |            |
| Total Hydrocarbons (C6-C50)            | <370   |           | 370    | ug/L    | 11-SEP-19   |     |                  |            |
| Chrom. to baseline at nC50             | YES    |           |        | No Unit | 10-SEP-19   |     |                  |            |
| Surrogate: 2-Bromobenzotrifluoride     | 90.4   |           | 60-140 | %       | 10-SEP-19   |     |                  |            |
| Surrogate: 3,4-Dichlorotoluene         | 91.5   |           | 60-140 | %       | 11-SEP-19   |     |                  |            |
| Polycyclic Aromatic Hydrocarbons       |        |           |        |         |             |     |                  |            |
| Acenaphthene                           | <0.020 |           | 0.020  | ug/L    | 11-SEP-19   |     |                  |            |
| Acenaphthylene                         | <0.020 |           | 0.020  | ug/L    | 11-SEP-19   |     |                  |            |
| Anthracene                             | <0.020 |           | 0.020  | ug/L    | 11-SEP-19   |     |                  |            |
| Benzo(a)anthracene                     | <0.020 |           | 0.020  | ug/L    | 11-SEP-19   |     |                  |            |
| Dana-(a)                               |        | 1         | 0.040  | /1      | 1 44 OED 40 |     | 1                | 1          |

Benzo(a)pyrene ug/L Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

< 0.010

0.010

11-SEP-19

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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13-SEP-19 12:41 (MT)

| E751900.A.CS.EV.19.19-01                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                       |           |                                                                                                  |                                                              | KLFON                                                                                                                                                                                                             | -  | Page 3<br>13-SEP-19 |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---------------------|--|
| Sample Details<br>Grouping Analyte                                                                                                                                                                                                                                                                                                                                         | Result                                                                                                                                | Qualifier | D.L.                                                                                             | Units                                                        | Analyzed                                                                                                                                                                                                          |    | Guideline Limits    |  |
| .2343122-14 DUP3                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                       |           |                                                                                                  |                                                              |                                                                                                                                                                                                                   |    |                     |  |
| Sampled By: V PETERS on 05-SEP-19 @                                                                                                                                                                                                                                                                                                                                        | 09:50                                                                                                                                 |           |                                                                                                  |                                                              |                                                                                                                                                                                                                   |    |                     |  |
| Matrix: WATER                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                       |           |                                                                                                  |                                                              |                                                                                                                                                                                                                   | #1 |                     |  |
| Polycyclic Aromatic Hydrocarbons                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                       |           |                                                                                                  |                                                              |                                                                                                                                                                                                                   |    |                     |  |
| Benzo(b)fluoranthene                                                                                                                                                                                                                                                                                                                                                       | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Benzo(g,h,i)perylene                                                                                                                                                                                                                                                                                                                                                       | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Benzo(k)fluoranthene                                                                                                                                                                                                                                                                                                                                                       | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Chrysene                                                                                                                                                                                                                                                                                                                                                                   | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Dibenzo(ah)anthracene                                                                                                                                                                                                                                                                                                                                                      | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Fluoranthene                                                                                                                                                                                                                                                                                                                                                               | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Fluorene                                                                                                                                                                                                                                                                                                                                                                   | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Indeno(1,2,3-cd)pyrene                                                                                                                                                                                                                                                                                                                                                     | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| 1+2-Methylnaphthalenes                                                                                                                                                                                                                                                                                                                                                     | <0.028                                                                                                                                |           | 0.028                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| 1-Methylnaphthalene                                                                                                                                                                                                                                                                                                                                                        | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| 2-Methylnaphthalene                                                                                                                                                                                                                                                                                                                                                        | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Naphthalene                                                                                                                                                                                                                                                                                                                                                                | <0.050                                                                                                                                |           | 0.050                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Phenanthrene                                                                                                                                                                                                                                                                                                                                                               | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Pyrene                                                                                                                                                                                                                                                                                                                                                                     | <0.020                                                                                                                                |           | 0.020                                                                                            | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Surrogate: d10-Acenaphthene                                                                                                                                                                                                                                                                                                                                                | 104.0                                                                                                                                 |           | 60-140                                                                                           | %                                                            | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Surrogate: d12-Chrysene                                                                                                                                                                                                                                                                                                                                                    | 107.3                                                                                                                                 |           | 60-140                                                                                           | %                                                            | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Surrogate: d8-Naphthalene                                                                                                                                                                                                                                                                                                                                                  | 106.4                                                                                                                                 |           | 60-140                                                                                           | %                                                            | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Surrogate: d10-Phenanthrene                                                                                                                                                                                                                                                                                                                                                | 105.5                                                                                                                                 |           | 60-140                                                                                           | %                                                            | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Sampled By: V PETERS on 05-SEP-19 @ Matrix: WATER                                                                                                                                                                                                                                                                                                                          | 09:50                                                                                                                                 |           |                                                                                                  |                                                              |                                                                                                                                                                                                                   | #1 |                     |  |
| Volatile Organic Compounds                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                       |           |                                                                                                  |                                                              |                                                                                                                                                                                                                   |    |                     |  |
| Acetone                                                                                                                                                                                                                                                                                                                                                                    | <30                                                                                                                                   |           | 1 20 1                                                                                           |                                                              |                                                                                                                                                                                                                   |    |                     |  |
| Benzene                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                       |           | 30                                                                                               | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
|                                                                                                                                                                                                                                                                                                                                                                            | <0.50                                                                                                                                 |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                                                                                         |    |                     |  |
| Bromodichloromethane                                                                                                                                                                                                                                                                                                                                                       | <2.0                                                                                                                                  |           | 0.50<br>2.0                                                                                      | ug/L<br>ug/L                                                 | 11-SEP-19<br>11-SEP-19                                                                                                                                                                                            |    |                     |  |
| Bromodichloromethane<br>Bromoform                                                                                                                                                                                                                                                                                                                                          | <2.0<br><5.0                                                                                                                          |           | 0.50<br>2.0<br>5.0                                                                               | ug/L<br>ug/L<br>ug/L                                         | 11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                                                                                               |    |                     |  |
| Bromodichloromethane<br>Bromoform<br>Bromomethane                                                                                                                                                                                                                                                                                                                          | <2.0<br><5.0<br><0.50                                                                                                                 |           | 0.50<br>2.0<br>5.0<br>0.50                                                                       | ug/L<br>ug/L<br>ug/L<br>ug/L                                 | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                                                                                  |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride                                                                                                                                                                                                                                                                                                           | <2.0<br><5.0<br><0.50<br><0.20                                                                                                        |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20                                                               | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L                         | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                                                                     |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene                                                                                                                                                                                                                                                                                             | <2.0<br><5.0<br><0.50<br><0.20<br><0.50                                                                                               |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50                                                       | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L                 | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                                                        |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane                                                                                                                                                                                                                                                                        | <2.0<br><5.0<br><0.50<br><0.20<br><0.50<br><2.0                                                                                       |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0                                                | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L         | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                                                        |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform                                                                                                                                                                                                                                                             | <2.0<br><5.0<br><0.50<br><0.20<br><0.50<br><2.0<br><1.0                                                                               |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0                                         | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L         | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                                           |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane                                                                                                                                                                                                                                           | <2.0<br><5.0<br><0.50<br><0.20<br><0.50<br><2.0<br><1.0<br><0.20                                                                      |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0                                         | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                              |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene                                                                                                                                                                                                                       | <2.0<br><5.0<br><0.50<br><0.20<br><0.50<br><2.0<br><1.0<br><0.20<br><0.50                                                             |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50                         | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                 |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,3-Dichlorobenzene 1,3-Dichlorobenzene                                                                                                                                                                                                   | <2.0<br><5.0<br><0.50<br><0.20<br><0.50<br><2.0<br><1.0<br><0.20<br><0.50<br><0.50                                                    |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50                 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                    |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene                                                                                                                                                                                                                       | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50                                                                   |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50<br>0.50         | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                    |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene                                                                                                                                                                               | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <2.0                                                              |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50<br>0.50<br>0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                    |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane                                                                                                                                                       | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50                                                                   |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50<br>0.50<br>0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                    |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane                                                                                                                                    | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50                                                       |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50<br>0.50<br>0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                       |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane                                                                                              | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <2.0 <0.50                                                  |           | 0.50 2.0 5.0 0.50 0.20 0.50 2.0 1.0 0.20 0.50 0.50 0.50 0.50 0.50 0.50                           | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                          |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethylene                                                                         | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <2.0 <0.50 <0.50                                            |           | 0.50 2.0 5.0 0.50 0.20 0.50 2.0 1.0 0.20 0.50 0.50 0.50 0.50 0.50 0.50 0.                        | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                             |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,2-Dichloroethylene cis-1,2-Dichloroethylene                                                                                      | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50                                     |           | 0.50 2.0 5.0 0.50 0.20 0.50 2.0 1.0 0.20 0.50 0.50 0.50 0.50 0.50 0.50 0.                        | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene                                        | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50                               |           | 0.50 2.0 5.0 0.50 0.20 0.50 2.0 1.0 0.20 0.50 0.50 0.50 0.50 0.50 0.50 0.                        | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                   |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,2-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene Methylene Chloride                     | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <5.50 <0.50 <5.50                         |           | 0.50 2.0 5.0 0.50 0.20 0.50 2.0 1.0 0.20 0.50 0.50 0.50 0.50 0.50 0.50 0.                        | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19                               |    |                     |  |
| Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethylene cis-1,2-Dichloroethylene trans-1,2-Dichloroethylene Methylene Chloride 1,2-Dichloropropane | <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 |           | 0.50 2.0 5.0 0.50 0.20 0.50 2.0 1.0 0.20 0.50 0.50 0.50 0.50 0.50 0.50 0.                        | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 11-SEP-19 |    |                     |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



L2343122 CONTD....
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13-SEP-19 12:41 (MT)

| Page 36 of CE751900.A.CS.EV.19.19-01 13-SEP-19 12:41 Sample Details                                                                                                                                                                             |                                                                                             |           |                                                                                                  |                                                              |                                                                                                                                             |    |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|----|------------------|
| Sample Details<br>Grouping Analyte                                                                                                                                                                                                              | Result                                                                                      | Qualifier | D.L.                                                                                             | Units                                                        | Analyzed                                                                                                                                    |    | Guideline Limits |
| 2343122-15 TB-001                                                                                                                                                                                                                               |                                                                                             |           |                                                                                                  |                                                              |                                                                                                                                             |    |                  |
| Sampled By: V PETERS on 05-SEP-19 @ 09                                                                                                                                                                                                          | 9:50                                                                                        |           |                                                                                                  |                                                              |                                                                                                                                             |    |                  |
| Matrix: WATER                                                                                                                                                                                                                                   |                                                                                             |           |                                                                                                  |                                                              |                                                                                                                                             | #1 |                  |
|                                                                                                                                                                                                                                                 |                                                                                             |           |                                                                                                  |                                                              |                                                                                                                                             |    |                  |
| Volatile Organic Compounds                                                                                                                                                                                                                      | 2.50                                                                                        |           | 0.50                                                                                             | ,                                                            | 11.055.10                                                                                                                                   |    |                  |
| Ethylbenzene                                                                                                                                                                                                                                    | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| n-Hexane                                                                                                                                                                                                                                        | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Methyl Ethyl Ketone                                                                                                                                                                                                                             | <20                                                                                         |           | 20                                                                                               | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Methyl Isobutyl Ketone                                                                                                                                                                                                                          | <20                                                                                         |           | 20                                                                                               | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| MTBE                                                                                                                                                                                                                                            | <2.0                                                                                        |           | 2.0                                                                                              | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Styrene                                                                                                                                                                                                                                         | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| 1,1,1,2-Tetrachloroethane                                                                                                                                                                                                                       | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| 1,1,2,2-Tetrachloroethane                                                                                                                                                                                                                       | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Tetrachloroethylene                                                                                                                                                                                                                             | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Toluene                                                                                                                                                                                                                                         | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| 1,1,1-Trichloroethane                                                                                                                                                                                                                           | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| 1,1,2-Trichloroethane                                                                                                                                                                                                                           | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Trichloroethylene                                                                                                                                                                                                                               | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Trichlorofluoromethane                                                                                                                                                                                                                          | <5.0                                                                                        |           | 5.0                                                                                              | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Vinyl chloride                                                                                                                                                                                                                                  | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| o-Xylene                                                                                                                                                                                                                                        | <0.30                                                                                       |           | 0.30                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| m+p-Xylenes                                                                                                                                                                                                                                     | <0.40                                                                                       |           | 0.40                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Xylenes (Total)                                                                                                                                                                                                                                 | <0.50                                                                                       |           | 0.50                                                                                             | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Surrogate: 4-Bromofluorobenzene                                                                                                                                                                                                                 | 89.3                                                                                        |           | 70-130                                                                                           | %                                                            | 11-SEP-19                                                                                                                                   |    |                  |
| Surrogate: 1,4-Difluorobenzene                                                                                                                                                                                                                  | 95.0                                                                                        |           | 70-130                                                                                           | %                                                            | 11-SEP-19                                                                                                                                   |    |                  |
| Hydrocarbons                                                                                                                                                                                                                                    |                                                                                             |           |                                                                                                  |                                                              |                                                                                                                                             |    |                  |
| F1 (C6-C10)                                                                                                                                                                                                                                     | <25                                                                                         |           | 25                                                                                               | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| F1-BTEX                                                                                                                                                                                                                                         | <25                                                                                         |           | 25                                                                                               | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Surrogate: 3,4-Dichlorotoluene                                                                                                                                                                                                                  | 86.9                                                                                        |           | 60-140                                                                                           | %                                                            | 11-SEP-19                                                                                                                                   |    |                  |
| 2343122-16 TB-002                                                                                                                                                                                                                               |                                                                                             |           |                                                                                                  |                                                              |                                                                                                                                             |    |                  |
| Sampled By: V PETERS on 05-SEP-19 @ 09                                                                                                                                                                                                          | 9:50                                                                                        |           |                                                                                                  |                                                              |                                                                                                                                             |    |                  |
| Matrix: WATER                                                                                                                                                                                                                                   |                                                                                             |           |                                                                                                  |                                                              |                                                                                                                                             | #1 |                  |
| Volatile Organic Compounds                                                                                                                                                                                                                      |                                                                                             |           |                                                                                                  |                                                              |                                                                                                                                             |    |                  |
| Acetone                                                                                                                                                                                                                                         |                                                                                             |           |                                                                                                  |                                                              |                                                                                                                                             |    |                  |
|                                                                                                                                                                                                                                                 | <30                                                                                         |           | 30                                                                                               | ug/L                                                         | 11-SEP-19                                                                                                                                   |    |                  |
| Benzene                                                                                                                                                                                                                                         | <30<br><0.50                                                                                |           | 30<br>0.50                                                                                       | ug/L<br>ug/L                                                 |                                                                                                                                             |    |                  |
|                                                                                                                                                                                                                                                 |                                                                                             |           |                                                                                                  | ug/L                                                         | 11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                         |    |                  |
| Benzene                                                                                                                                                                                                                                         | <0.50<br><2.0                                                                               |           | 0.50<br>2.0                                                                                      | ug/L<br>ug/L                                                 | 11-SEP-19<br>11-SEP-19                                                                                                                      |    |                  |
| Benzene<br>Bromodichloromethane                                                                                                                                                                                                                 | <0.50<br><2.0<br><5.0                                                                       |           | 0.50<br>2.0<br>5.0                                                                               | ug/L<br>ug/L<br>ug/L                                         | 11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                                         |    |                  |
| Benzene<br>Bromodichloromethane<br>Bromoform                                                                                                                                                                                                    | <0.50<br><2.0                                                                               |           | 0.50<br>2.0                                                                                      | ug/L<br>ug/L<br>ug/L<br>ug/L                                 | 11-SEP-19<br>11-SEP-19                                                                                                                      |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane                                                                                                                                                                                             | <0.50<br><2.0<br><5.0<br><0.50                                                              |           | 0.50<br>2.0<br>5.0<br>0.50                                                                       | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L                         | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                                            |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride                                                                                                                                                                        | <0.50<br><2.0<br><5.0<br><0.50<br><0.20                                                     |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20                                                               | ug/L<br>ug/L<br>ug/L<br>ug/L                                 | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                               |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene                                                                                                                                                          | <0.50<br><2.0<br><5.0<br><0.50<br><0.20<br><0.50                                            |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50                                                       | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L         | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                  |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane                                                                                                                                     | <0.50<br><2.0<br><5.0<br><0.50<br><0.20<br><0.50<br><2.0                                    |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0                                                | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L         | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                     |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform                                                                                                                          | <0.50<br><2.0<br><5.0<br><0.50<br><0.20<br><0.50<br><2.0<br><1.0                            |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0                                         | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                                                  |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene                                                                                    | <0.50 <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <1.0 <0.20 <0.50                    |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50                         | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                           |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane                                                                                                        | <0.50 <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.20 <1.0 <0.20 <0.50 <0.50        |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50                 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19                                        |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene                                                                | <0.50 <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50             |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50<br>0.50         | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19              |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene                                            | <0.50 <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50<br>0.50<br>0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19              |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane                    | <0.50 <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50             |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50<br>0.50<br>0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19 |    |                  |
| Benzene Bromodichloromethane Bromoform Bromomethane Carbon tetrachloride Chlorobenzene Dibromochloromethane Chloroform 1,2-Dibromoethane 1,2-Dichlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene Dichlorodifluoromethane 1,1-Dichloroethane | <0.50 <2.0 <5.0 <0.50 <0.20 <0.50 <2.0 <1.0 <0.20 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 <0.50 |           | 0.50<br>2.0<br>5.0<br>0.50<br>0.20<br>0.50<br>2.0<br>1.0<br>0.20<br>0.50<br>0.50<br>0.50<br>0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                      | 11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19<br>11-SEP-19              |    |                  |

<sup>\*\*</sup> 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:



L2343122 CONTD....
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| E751900.A.CS.EV.19.19-01 Sample Details          |               |           | COID        |              | KLFOR                  | Page 37 of 4<br>13-SEP-19 12:41 (N |
|--------------------------------------------------|---------------|-----------|-------------|--------------|------------------------|------------------------------------|
| Grouping Analyte                                 | Result        | Qualifier | D.L.        | Units        | Analyzed               | Guideline Limits                   |
| .2343122-16 TB-002                               |               |           |             |              |                        |                                    |
| Sampled By: V PETERS on 05-SEP-19 @ 09           | :50           |           |             |              |                        |                                    |
| Matrix: WATER                                    |               |           |             |              |                        | #1                                 |
| Volatile Organic Compounds                       |               |           |             |              |                        |                                    |
|                                                  | -O FO         |           | 0.50        | //           | 11-SEP-19              |                                    |
| trans-1,2-Dichloroethylene<br>Methylene Chloride | <0.50<br><5.0 |           | 0.50        | ug/L         | 11-SEP-19<br>11-SEP-19 |                                    |
| 1,2-Dichloropropane                              | <0.50         |           | 5.0<br>0.50 | ug/L         | 11-SEP-19<br>11-SEP-19 |                                    |
| cis-1,3-Dichloropropene                          | <0.30         |           | 0.30        | ug/L<br>ug/L | 11-SEP-19              |                                    |
| trans-1,3-Dichloropropene                        | <0.30         |           | 0.30        | ug/L<br>ug/L | 11-SEP-19              |                                    |
| 1,3-Dichloropropene (cis & trans)                | <0.50         |           | 0.50        | ug/L<br>ug/L | 11-SEP-19              |                                    |
| Ethylbenzene                                     | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| n-Hexane                                         | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| Methyl Ethyl Ketone                              | <20           |           | 20          | ug/L         | 11-SEP-19              |                                    |
| Methyl Isobutyl Ketone                           | <20           |           | 20          | ug/L         | 11-SEP-19              |                                    |
| MTBE                                             | <2.0          |           | 2.0         | ug/L         | 11-SEP-19              |                                    |
| Styrene                                          | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| 1,1,1,2-Tetrachloroethane                        | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| 1,1,2,2-Tetrachloroethane                        | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| Tetrachloroethylene                              | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| Toluene                                          | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| 1,1,1-Trichloroethane                            | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| 1,1,2-Trichloroethane                            | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| Trichloroethylene                                | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| Trichlorofluoromethane                           | <5.0          |           | 5.0         | ug/L         | 11-SEP-19              |                                    |
| Vinyl chloride                                   | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| o-Xylene                                         | <0.30         |           | 0.30        | ug/L         | 11-SEP-19              |                                    |
| m+p-Xylenes                                      | <0.40         |           | 0.40        | ug/L         | 11-SEP-19              |                                    |
| Xylenes (Total)                                  | <0.50         |           | 0.50        | ug/L         | 11-SEP-19              |                                    |
| Surrogate: 4-Bromofluorobenzene                  | 90.3          |           | 70-130      | %            | 11-SEP-19              |                                    |
| Surrogate: 1,4-Difluorobenzene                   | 95.4          |           | 70-130      | %            | 11-SEP-19              |                                    |
| Hydrocarbons                                     |               |           |             |              |                        |                                    |
| F1 (C6-C10)                                      | <25           |           | 25          | ug/L         | 11-SEP-19              |                                    |
| F1-BTEX                                          | <25           |           | 25          | ug/L         | 11-SEP-19              |                                    |
| Surrogate: 3,4-Dichlorotoluene                   | 92.8          |           | 60-140      | %            | 11-SEP-19              |                                    |
|                                                  |               |           |             |              |                        |                                    |
|                                                  |               |           |             |              |                        |                                    |
|                                                  |               |           |             |              |                        |                                    |
|                                                  |               |           |             |              |                        |                                    |
|                                                  |               |           |             |              |                        |                                    |
|                                                  |               |           |             |              |                        |                                    |
|                                                  |               |           |             |              |                        |                                    |
|                                                  |               |           |             |              |                        |                                    |

<sup>\*\*</sup> 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:

#### **Reference Information**

Sample Parameter Qualifier key listed:

| Qualifier | Description                                                                                                         |
|-----------|---------------------------------------------------------------------------------------------------------------------|
| SAR:M     | Reported SAR represents a maximum value. Actual SAR may be lower if both Ca and Mg were detectable.                 |
| SAR:DL    | SAR is incalculable due to undetectable Na. Detection Limit represents maximum possible SAR value.                  |
| SAR:INC   | SAR is incalculable due to Ca, Mg below detection limit.                                                            |
| SAR:L     | SAR is incalculable due to Ca and Mg below DL (with Na above DL). Lowest possible SAR is reported as minimum value. |
| DLHC      | Detection Limit Raised: Dilution required due to high concentration of test analyte(s).                             |

#### Methods Listed (if applicable):

| ALS Test Code | Matrix | Test Description        | Method Reference*** |
|---------------|--------|-------------------------|---------------------|
| 625-511-WT    | Water  | ABN,CP,PAH-O.Reg 153/04 | SW846 8270 (511)    |

Ground water sample extraction is carried out at a pH <2 (acid extractables) and pH>11 (base neutral extractables). Extracts are dried, concentrated and exchanged into a solvent compatible with the cleanup. Analysis is by GC/MS. Depending on the analytical GC/MS column used benzo(j)fluoranthene may chromatographically co-elute with benzo(b)fluoranthene or benzo(k)fluoranthene.

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).

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).

CR-CR6-IC-R511-WT Water Hex Chrom-O.Reg 153/04 (July EPA 7199

2011)
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).

DINITROTOL-CALC-WT Water ABN-Calculated Parameters SW846 8270 EC-R511-WT Water Conductivity-O.Reg 153/04 (July 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).

EC-SCREEN-WT Water Conductivity Screen (Internal APHA 2510

Use Only)

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

ETL-SAR-CALC-WT Water Sodium Adsorption Ratio Calculation

#### **Reference Information**

F1-F4-511-CALC-WT

Water

F1-F4 Hydrocarbon Calculated CCME CWS-PHC, Pub #1310, Dec 2001-L

**Parameters** 

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), 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), 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

EPA 1631E (mod)

CVAAS (ug/L)

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 EPA 200.8

(ug/L)

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(i)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), 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

рΗ

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

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

Regulation 153 VOCs

SW8260B/SW8270C

#### **Reference Information**

VOC-511-HS-WT

Water

VOC by GCMS HS O.Reg

SW846 8260

153/04 (July 2011)

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), 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 xvlenes represents the sum of o-xvlene and m&p-xvlene.

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

Chain of Custody numbers:

17-826465

17-826566

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

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.



Workorder: L2343122 Report Date: 13-SEP-19 Page 1 of 15

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                      | Matrix | Reference | Result       | Qualifier | Units        | RPD | Limit  | Analyzed  |
|-------------------------------------------|--------|-----------|--------------|-----------|--------------|-----|--------|-----------|
| 625-511-WT                                | Water  |           |              |           |              |     |        |           |
| Batch R4801930                            |        |           |              |           |              |     |        |           |
| WG3156659-2 LCS                           |        |           | 86.9         |           | %            |     | 50.440 | 40.0ED 40 |
| 1,2,4-Trichlorobenzene 2,4-Dimethylphenol |        |           | 95.5         |           | %            |     | 50-140 | 12-SEP-19 |
| 2,4-Dinitrophenol                         |        |           | 134.6        |           | %            |     | 30-130 | 12-SEP-19 |
| 2,4-Dinitrotoluene                        |        |           | 118.9        |           | %            |     | 50-140 | 12-SEP-19 |
| 2,6-Dinitrotoluene                        |        |           | 110.9        |           | %            |     | 50-140 | 12-SEP-19 |
| •                                         |        |           |              |           | %            |     | 50-140 | 12-SEP-19 |
| 3,3'-Dichlorobenzidine 4-Chloroaniline    |        |           | 85.0<br>55.5 |           |              |     | 30-130 | 12-SEP-19 |
|                                           |        |           | 55.5         |           | %            |     | 30-130 | 12-SEP-19 |
| Biphenyl                                  |        |           | 97.2         |           | %            |     | 50-140 | 12-SEP-19 |
| Bis(2-chloroethyl)ether                   |        |           | 95.3         |           | %            |     | 50-140 | 12-SEP-19 |
| Bis(2-chloroisopropyl)eth                 |        |           | 96.0         |           | %            |     | 50-140 | 12-SEP-19 |
| Bis(2-ethylhexyl)phthalat                 | te     |           | 119.1        |           | %            |     | 50-140 | 12-SEP-19 |
| Diethylphthalate                          |        |           | 103.1        |           | %            |     | 50-140 | 12-SEP-19 |
| Dimethylphthalate                         |        |           | 105.7        |           | %            |     | 50-140 | 12-SEP-19 |
| Phenol                                    |        |           | 54.4         |           | %            |     | 30-130 | 12-SEP-19 |
| WG3156659-1 MB<br>1,2,4-Trichlorobenzene  |        |           | <0.40        |           | ug/L         |     | 0.4    | 12-SEP-19 |
| 2,4-Dimethylphenol                        |        |           | <0.50        |           | ug/L         |     | 0.5    | 12-SEP-19 |
| 2,4-Dinitrophenol                         |        |           | <1.0         |           | ug/L         |     | 1      | 12-SEP-19 |
| 2,4-Dinitrotoluene                        |        |           | <0.40        |           | ug/L         |     | 0.4    | 12-SEP-19 |
| 2,6-Dinitrotoluene                        |        |           | <0.40        |           | ug/L         |     | 0.4    |           |
| 3,3'-Dichlorobenzidine                    |        |           | <0.40        |           | ug/L         |     | 0.4    | 12-SEP-19 |
| 4-Chloroaniline                           |        |           | <0.40        |           | ug/L         |     | 0.4    | 12-SEP-19 |
| Biphenyl                                  |        |           | <0.40        |           | ug/L         |     | 0.4    | 12-SEP-19 |
| Bis(2-chloroethyl)ether                   |        |           | <0.40        |           |              |     | 0.4    | 12-SEP-19 |
| Bis(2-chloroisopropyl)eth                 | oor    |           | <0.40        |           | ug/L<br>ug/L |     | 0.4    | 12-SEP-19 |
| Bis(2-ethylhexyl)phthalat                 |        |           | <2.0         |           | ug/L         |     | 2      | 12-SEP-19 |
| Diethylphthalate                          | ıe     |           |              |           |              |     |        | 12-SEP-19 |
|                                           |        |           | <0.20        |           | ug/L         |     | 0.2    | 12-SEP-19 |
| Dimethylphthalate                         |        |           | <0.20        |           | ug/L         |     | 0.2    | 12-SEP-19 |
| Phenol                                    | on d   |           | <0.50        |           | ug/L         |     | 0.5    | 12-SEP-19 |
| Surrogate: 2-Fluorobiphe                  | -      |           | 89.2         |           | %            |     | 50-140 | 12-SEP-19 |
| Surrogate: 2,4,6-Tribrom                  | •      |           | 94.3         |           | %            |     | 50-140 | 12-SEP-19 |
| Surrogate: Nitrobenzene                   |        |           | 97.8         |           | %            |     | 50-140 | 12-SEP-19 |
| Surrogate: p-Terphenyl o                  | 114    |           | 125.7        |           | %            |     | 60-140 | 12-SEP-19 |
| Surrogate: Phenol d5                      |        |           | 49.3         |           | %            |     | 30-130 | 12-SEP-19 |



Workorder: L2343122 Report Date: 13-SEP-19 Page 2 of 15

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                  |                         | Matrix | Reference                 | Result | Qualifier | Units | RPD | Limit   | Analyzed  |
|---------------------------------------|-------------------------|--------|---------------------------|--------|-----------|-------|-----|---------|-----------|
| CL-IC-N-WT                            |                         | Water  |                           |        |           |       |     |         |           |
| Batch R47                             | 96789                   |        |                           |        |           |       |     |         |           |
| <b>WG3157129-4</b><br>Chloride (CI)   | DUP                     |        | <b>WG3157129-3</b><br>680 | 679    |           | mg/L  | 0.1 | 20      | 10-SEP-19 |
| <b>WG3157129-9</b><br>Chloride (Cl)   | DUP                     |        | <b>L2343710-1</b><br>476  | 477    |           | mg/L  | 0.2 | 20      | 10-SEP-19 |
| <b>WG3157129-2</b><br>Chloride (CI)   | LCS                     |        |                           | 102.3  |           | %     |     | 90-110  | 10-SEP-19 |
| <b>WG3157129-7</b><br>Chloride (Cl)   | LCS                     |        |                           | 101.7  |           | %     |     | 90-110  | 10-SEP-19 |
| <b>WG3157129-1</b><br>Chloride (CI)   | МВ                      |        |                           | <0.50  |           | mg/L  |     | 0.5     | 10-SEP-19 |
| <b>WG3157129-6</b><br>Chloride (CI)   | МВ                      |        |                           | <0.50  |           | mg/L  |     | 0.5     | 10-SEP-19 |
| <b>WG3157129-10</b><br>Chloride (CI)  | MS                      |        | L2343710-1                | N/A    | MS-B      | %     |     | -       | 10-SEP-19 |
| <b>WG3157129-5</b><br>Chloride (Cl)   | MS                      |        | WG3157129-3               | N/A    | MS-B      | %     |     | -       | 10-SEP-19 |
| CN-WAD-R511-WT                        |                         | Water  |                           |        |           |       |     |         |           |
| Batch R48                             | 05252                   |        |                           |        |           |       |     |         |           |
| WG3156212-3<br>Cyanide, Weak A        | <b>DUP</b><br>Acid Diss | 6      | <b>L2343122-1</b> <2.0    | <2.0   | RPD-NA    | ug/L  | N/A | 20      | 10-SEP-19 |
| <b>WG3156212-2</b><br>Cyanide, Weak A | LCS<br>Acid Diss        | 5      |                           | 103.4  |           | %     |     | 80-120  | 10-SEP-19 |
| <b>WG3156212-1</b><br>Cyanide, Weak A | MB<br>Acid Diss         | 6      |                           | <2.0   |           | ug/L  |     | 2       | 10-SEP-19 |
| <b>WG3156212-4</b><br>Cyanide, Weak A | MS<br>Acid Diss         | 3      | L2343122-1                | 97.5   |           | %     |     | 75-125  | 10-SEP-19 |
| CR-CR6-IC-R511-W                      |                         | Water  |                           |        |           |       |     |         | 10 02. 10 |
|                                       | 95788<br>DUP            |        | <b>WG3157304-3</b> <0.50  | <0.50  | RPD-NA    | ug/L  | N/A | 20      | 10-SEP-19 |
| WG3157304-2<br>Chromium, Hexa         | LCS                     |        |                           | 96.8   | NI D IVI  | %     |     | 80-120  | 10-SEP-19 |
|                                       | МВ                      |        |                           | <0.50  |           | ug/L  |     | 0.5     | 10-SEP-19 |
|                                       | MS                      |        | WG3157304-3               | 95.9   |           | %     |     | 70-130  | 10-SEP-19 |
| EC-R511-WT                            |                         | Water  |                           |        |           |       |     | . 5 100 |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                              |            | Matrix        | Reference                | Result  | Qualifier | Units        | RPD | Limit  | Analyzed  |
|-----------------------------------|------------|---------------|--------------------------|---------|-----------|--------------|-----|--------|-----------|
| EC-R511-WT                        |            | Water         |                          |         |           |              |     |        |           |
| Batch R4                          | 1792994    |               |                          |         |           |              |     |        |           |
| WG3156180-4<br>Conductivity       | DUP        |               | <b>WG3156180-3</b> 2.79  | 2.81    |           | mS/cm        | 0.7 | 10     | 09-SEP-19 |
| WG3156180-2<br>Conductivity       | LCS        |               |                          | 100.6   |           | %            |     | 90-110 | 09-SEP-19 |
| WG3156180-1<br>Conductivity       | МВ         |               |                          | <0.0030 |           | mS/cm        |     | 0.003  | 09-SEP-19 |
| Batch R4                          | 1793009    |               |                          |         |           |              |     |        |           |
| WG3156288-4<br>Conductivity       | DUP        |               | <b>WG3156288-3</b> 0.342 | 0.343   |           | mS/cm        | 0.3 | 10     | 09-SEP-19 |
| WG3156288-2<br>Conductivity       | LCS        |               |                          | 99.4    |           | %            |     | 90-110 | 09-SEP-19 |
| WG3156288-1<br>Conductivity       | МВ         |               |                          | <0.0030 |           | mS/cm        |     | 0.003  | 09-SEP-19 |
| F1-HS-511-WT                      |            | Water         |                          |         |           |              |     |        |           |
| Batch R4                          | 1796329    |               |                          |         |           |              |     |        |           |
| <b>WG3157712-4</b> F1 (C6-C10)    | DUP        |               | <b>WG3157712-3</b> <25   | <25     | RPD-NA    | ug/L         | N/A | 30     | 11-SEP-19 |
| <b>WG3157712-1</b><br>F1 (C6-C10) | LCS        |               |                          | 107.4   |           | %            |     | 80-120 | 11-SEP-19 |
| <b>WG3157712-2</b> F1 (C6-C10)    | МВ         |               |                          | <25     |           | ug/L         |     | 25     | 11-SEP-19 |
| Surrogate: 3,4-                   | Dichloroto | oluene        |                          | 92.3    |           | %            |     | 60-140 | 11-SEP-19 |
| <b>WG3157712-5</b><br>F1 (C6-C10) | MS         |               | WG3157712-3              | 96.8    |           | %            |     | 60-140 | 11-SEP-19 |
| F2-F4-511-WT                      |            | Water         |                          |         |           |              |     |        |           |
| Batch R4                          | 1796330    |               |                          |         |           |              |     |        |           |
| <b>WG3156516-2</b> F2 (C10-C16)   | LCS        |               |                          | 92.1    |           | %            |     | 70-130 | 10-SEP-19 |
| F3 (C16-C34)                      |            |               |                          | 102.0   |           | %            |     | 70-130 | 10-SEP-19 |
| F4 (C34-C50)                      |            |               |                          | 94.2    |           | %            |     | 70-130 | 10-SEP-19 |
| <b>WG3156516-1</b> F2 (C10-C16)   | MB         |               |                          | <100    |           | ua/l         |     | 100    | 10 SED 10 |
| F3 (C16-C16)                      |            |               |                          | <250    |           | ug/L<br>ug/L |     | 250    | 10-SEP-19 |
|                                   |            |               |                          |         |           |              |     |        | 10-SEP-19 |
| F4 (C34-C50)                      |            |               |                          | <250    |           | ug/L         |     | 250    | 10-SEP-19 |
| Surrogate: 2-Bi                   | omobenz    | cotritiuoride |                          | 88.9    |           | %            |     | 60-140 | 10-SEP-19 |



Qualifier

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RPD

Limit

Analyzed

Units

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Matrix

Reference

Result

Contact: Michael Shiry

Test

| F2-F4-511-WT Wa                                                 | iter                |                       |                  |              |            |          |                        |
|-----------------------------------------------------------------|---------------------|-----------------------|------------------|--------------|------------|----------|------------------------|
| Batch R4796360                                                  |                     |                       |                  |              |            |          |                        |
| WG3157013-2 LCS                                                 |                     | 00.0                  |                  | 0/           |            |          |                        |
| F2 (C10-C16)                                                    |                     | 88.9                  |                  | %            |            | 70-130   | 10-SEP-19              |
| F3 (C16-C34)                                                    |                     | 98.1                  |                  | %            |            | 70-130   | 10-SEP-19              |
| F4 (C34-C50)                                                    |                     | 89.8                  |                  | %            |            | 70-130   | 10-SEP-19              |
| <b>WG3157013-1 MB</b> F2 (C10-C16)                              |                     | <100                  |                  | ug/L         |            | 100      | 10-SEP-19              |
| F3 (C16-C34)                                                    |                     | <250                  |                  | ug/L         |            | 250      | 10-SEP-19              |
| F4 (C34-C50)                                                    |                     | <250                  |                  | ug/L         |            | 250      | 10-SEP-19              |
| Surrogate: 2-Bromobenzotrifl                                    | uoride              | 75.0                  |                  | %            |            | 60-140   | 10-SEP-19              |
| -                                                               |                     |                       |                  |              |            |          | 10 021 10              |
|                                                                 | iter                |                       |                  |              |            |          |                        |
| Batch R4793456<br>WG3156109-3 DUP                               | L2343122-1          |                       |                  |              |            |          |                        |
| Mercury (Hg)-Dissolved                                          | <0.0050             | <0.0050               | RPD-NA           | ug/L         | N/A        | 20       | 10-SEP-19              |
| WG3156109-2 LCS                                                 |                     |                       |                  |              |            |          |                        |
| Mercury (Hg)-Dissolved                                          |                     | 99.2                  |                  | %            |            | 80-120   | 10-SEP-19              |
| WG3156109-1 MB                                                  |                     |                       |                  |              |            |          |                        |
| Mercury (Hg)-Dissolved                                          |                     | <0.0050               |                  | ug/L         |            | 0.005    | 10-SEP-19              |
| WG3156109-4 MS Mercury (Hg)-Dissolved                           | L2343122-2          | 87.4                  |                  | %            |            | 70-130   | 10 CED 10              |
|                                                                 |                     | 07.4                  |                  | 70           |            | 70-130   | 10-SEP-19              |
|                                                                 | iter                |                       |                  |              |            |          |                        |
| Batch R4791508<br>WG3155539-4 DUP                               | WG3155539           |                       |                  |              |            |          |                        |
| Antimony (Sb)-Dissolved                                         | <1.0                | <1.0                  | RPD-NA           | ug/L         | N/A        | 20       | 09-SEP-19              |
| Arsenic (As)-Dissolved                                          | <1.0                | <1.0                  | RPD-NA           | ug/L         | N/A        | 20       | 09-SEP-19              |
| Barium (Ba)-Dissolved                                           | 43.3                | 43.5                  |                  | ug/L         | 0.5        | 20       | 09-SEP-19              |
| Beryllium (Be)-Dissolved                                        | <1.0                | <1.0                  | RPD-NA           | ug/L         | N/A        | 20       | 09-SEP-19              |
| Boron (B)-Dissolved                                             | <100                | <100                  | RPD-NA           | ug/L         | N/A        | 20       | 09-SEP-19              |
| Cadmium (Cd)-Dissolved                                          | <0.050              | <0.050                | RPD-NA           | ug/L         | N/A        | 20       | 09-SEP-19              |
| Chromium (Cr)-Dissolved                                         |                     | <5.0                  | RPD-NA           | ug/L         | N/A        | 20       | 09-SEP-19              |
|                                                                 | <0.0                |                       |                  | 9-           | 1 1// 1    | 20       | 00 01 10               |
| (                                                               | <5.0<br><1.0        |                       |                  | ua/L         | N/A        | 20       | 00-SEP-10              |
| Cobalt (Co)-Dissolved                                           | <1.0                | <1.0                  | RPD-NA           | ug/L<br>ug/L | N/A<br>N/A | 20       | 09-SEP-19              |
| Cobalt (Co)-Dissolved Copper (Cu)-Dissolved                     | <1.0<br>2.1         | <1.0<br><2.0          | RPD-NA<br>RPD-NA | ug/L         | N/A        | 20       | 10-SEP-19              |
| Cobalt (Co)-Dissolved Copper (Cu)-Dissolved Lead (Pb)-Dissolved | <1.0<br>2.1<br>0.72 | <1.0<br><2.0<br><0.50 | RPD-NA           | ug/L<br>ug/L | N/A<br>N/A | 20<br>20 | 10-SEP-19<br>09-SEP-19 |
| Cobalt (Co)-Dissolved Copper (Cu)-Dissolved                     | <1.0<br>2.1         | <1.0<br><2.0          | RPD-NA<br>RPD-NA | ug/L         | N/A        | 20       | 10-SEP-19              |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                      | Matrix | Reference                | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------------------------|--------|--------------------------|---------|-----------|-------|-----|--------|-----------|
| MET-D-UG/L-MS-WT                          | Water  |                          |         |           |       |     |        |           |
| Batch R4791508                            |        |                          |         |           |       |     |        |           |
| WG3155539-4 DUP<br>Silver (Ag)-Dissolved  |        | <b>WG3155539-3</b> <0.50 | <0.50   | RPD-NA    | ug/L  | N/A | 20     | 09-SEP-19 |
| Sodium (Na)-Dissolved                     |        | 304000                   | 306000  | INI D-INA | ug/L  | 0.5 | 20     | 09-SEP-19 |
| Thallium (TI)-Dissolved                   |        | <0.10                    | <0.10   | RPD-NA    | ug/L  | N/A | 20     | 09-SEP-19 |
| Uranium (U)-Dissolved                     |        | 0.34                     | 0.32    | RPD-NA    | ug/L  |     |        |           |
| Vanadium (V)-Dissolved                    | d      | <5.0                     | <5.0    | RPD-NA    | ug/L  | 6.4 | 20     | 09-SEP-19 |
| Zinc (Zn)-Dissolved                       | u      | <5.0<br>14               | <10     |           | •     | N/A | 20     | 09-SEP-19 |
|                                           |        | 14                       | <10     | RPD-NA    | ug/L  | N/A | 20     | 09-SEP-19 |
| WG3155539-2 LCS<br>Antimony (Sb)-Dissolve | ed     |                          | 96.5    |           | %     |     | 80-120 | 09-SEP-19 |
| Arsenic (As)-Dissolved                    |        |                          | 97.3    |           | %     |     | 80-120 | 09-SEP-19 |
| Barium (Ba)-Dissolved                     |        |                          | 100.9   |           | %     |     | 80-120 | 09-SEP-19 |
| Beryllium (Be)-Dissolve                   | d      |                          | 92.8    |           | %     |     | 80-120 | 09-SEP-19 |
| Boron (B)-Dissolved                       |        |                          | 91.7    |           | %     |     | 80-120 | 09-SEP-19 |
| Cadmium (Cd)-Dissolve                     | ed     |                          | 99.4    |           | %     |     | 80-120 | 09-SEP-19 |
| Chromium (Cr)-Dissolv                     | ed     |                          | 98.0    |           | %     |     | 80-120 | 09-SEP-19 |
| Cobalt (Co)-Dissolved                     |        |                          | 96.9    |           | %     |     | 80-120 | 09-SEP-19 |
| Copper (Cu)-Dissolved                     |        |                          | 96.8    |           | %     |     | 80-120 | 09-SEP-19 |
| Lead (Pb)-Dissolved                       |        |                          | 99.0    |           | %     |     | 80-120 | 09-SEP-19 |
| Molybdenum (Mo)-Diss                      | olved  |                          | 99.8    |           | %     |     | 80-120 | 09-SEP-19 |
| Nickel (Ni)-Dissolved                     |        |                          | 96.5    |           | %     |     | 80-120 | 09-SEP-19 |
| Selenium (Se)-Dissolve                    | ed     |                          | 99.1    |           | %     |     | 80-120 | 09-SEP-19 |
| Silver (Ag)-Dissolved                     |        |                          | 99.2    |           | %     |     | 80-120 | 09-SEP-19 |
| Sodium (Na)-Dissolved                     |        |                          | 96.7    |           | %     |     | 80-120 | 09-SEP-19 |
| Thallium (TI)-Dissolved                   |        |                          | 98.7    |           | %     |     | 80-120 | 09-SEP-19 |
| Uranium (U)-Dissolved                     |        |                          | 97.0    |           | %     |     | 80-120 | 09-SEP-19 |
| Vanadium (V)-Dissolve                     | d      |                          | 99.8    |           | %     |     | 80-120 | 09-SEP-19 |
| Zinc (Zn)-Dissolved                       |        |                          | 97.9    |           | %     |     | 80-120 | 09-SEP-19 |
| WG3155539-1 MB                            | .d     |                          | -0.10   |           | ug/l  |     | 0.1    | 00.050.40 |
| Antimony (Sb)-Dissolved                   | eu     |                          | <0.10   |           | ug/L  |     | 0.1    | 09-SEP-19 |
| Arsenic (As)-Dissolved                    |        |                          | <0.10   |           | ug/L  |     | 0.1    | 09-SEP-19 |
| Barium (Ba)-Dissolved                     | ۵      |                          | <0.10   |           | ug/L  |     | 0.1    | 09-SEP-19 |
| Beryllium (Be)-Dissolve                   | u      |                          | <0.10   |           | ug/L  |     | 0.1    | 09-SEP-19 |
| Boron (B)-Dissolved                       | a d    |                          | <10     |           | ug/L  |     | 10     | 09-SEP-19 |
| Cadmium (Cd)-Dissolve                     |        |                          | <0.0050 |           | ug/L  |     | 0.005  | 09-SEP-19 |
| Chromium (Cr)-Dissolve                    | ea     |                          | <0.50   |           | ug/L  |     | 0.5    | 09-SEP-19 |



Workorder: L2343122 Report Date: 13-SEP-19 Page 6 of 15

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Michael Shiry

| Test                                    | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-----------------------------------------|--------|-------------|--------|-----------|-------|-----|--------|-----------|
| MET-D-UG/L-MS-WT                        | Water  |             |        |           |       |     |        |           |
| Batch R479150                           | 8      |             |        |           |       |     |        |           |
| WG3155539-1 MB                          |        |             |        |           |       |     |        |           |
| Cobalt (Co)-Dissolved                   |        |             | <0.10  |           | ug/L  |     | 0.1    | 09-SEP-19 |
| Copper (Cu)-Dissolve                    | d      |             | <0.20  |           | ug/L  |     | 0.2    | 09-SEP-19 |
| Lead (Pb)-Dissolved                     |        |             | <0.050 |           | ug/L  |     | 0.05   | 09-SEP-19 |
| Molybdenum (Mo)-Dis                     | solved |             | <0.050 |           | ug/L  |     | 0.05   | 09-SEP-19 |
| Nickel (Ni)-Dissolved                   |        |             | <0.50  |           | ug/L  |     | 0.5    | 09-SEP-19 |
| Selenium (Se)-Dissolv                   | /ed    |             | <0.050 |           | ug/L  |     | 0.05   | 09-SEP-19 |
| Silver (Ag)-Dissolved                   |        |             | <0.050 |           | ug/L  |     | 0.05   | 09-SEP-19 |
| Sodium (Na)-Dissolve                    |        |             | <50    |           | ug/L  |     | 50     | 09-SEP-19 |
| Thallium (TI)-Dissolve                  | d      |             | <0.010 |           | ug/L  |     | 0.01   | 09-SEP-19 |
| Uranium (U)-Dissolve                    | d      |             | <0.010 |           | ug/L  |     | 0.01   | 09-SEP-19 |
| Vanadium (V)-Dissolv                    | ed     |             | <0.50  |           | ug/L  |     | 0.5    | 09-SEP-19 |
| Zinc (Zn)-Dissolved                     |        |             | <1.0   |           | ug/L  |     | 1      | 09-SEP-19 |
| WG3155539-5 MS<br>Antimony (Sb)-Dissolv | ved    | WG3155539-6 | 101.2  |           | %     |     | 70-130 | 10-SEP-19 |
| Arsenic (As)-Dissolve                   |        |             | 103.3  |           | %     |     | 70-130 | 10-SEP-19 |
| Barium (Ba)-Dissolved                   |        |             | N/A    | MS-B      | %     |     | -      | 10-SEP-19 |
| Beryllium (Be)-Dissolv                  |        |             | 104.9  | 0 2       | %     |     | 70-130 | 10-SEP-19 |
| Boron (B)-Dissolved                     |        |             | N/A    | MS-B      | %     |     | -      | 10-SEP-19 |
| Cadmium (Cd)-Dissol                     | ved    |             | 97.7   |           | %     |     | 70-130 | 10-SEP-19 |
| Chromium (Cr)-Dissol                    | ved    |             | 100.9  |           | %     |     | 70-130 | 10-SEP-19 |
| Cobalt (Co)-Dissolved                   |        |             | 96.8   |           | %     |     | 70-130 | 10-SEP-19 |
| Copper (Cu)-Dissolve                    | d      |             | 91.2   |           | %     |     | 70-130 | 10-SEP-19 |
| Lead (Pb)-Dissolved                     |        |             | 90.6   |           | %     |     | 70-130 | 10-SEP-19 |
| Molybdenum (Mo)-Dis                     | solved |             | N/A    | MS-B      | %     |     | -      | 10-SEP-19 |
| Nickel (Ni)-Dissolved                   |        |             | 91.4   |           | %     |     | 70-130 | 10-SEP-19 |
| Selenium (Se)-Dissolv                   | ved .  |             | 106.8  |           | %     |     | 70-130 | 10-SEP-19 |
| Silver (Ag)-Dissolved                   |        |             | 81.2   |           | %     |     | 70-130 | 10-SEP-19 |
| Sodium (Na)-Dissolve                    | d      |             | N/A    | MS-B      | %     |     | -      | 09-SEP-19 |
| Thallium (TI)-Dissolve                  | d      |             | 90.8   |           | %     |     | 70-130 | 10-SEP-19 |
| Uranium (U)-Dissolve                    | d      |             | N/A    | MS-B      | %     |     | -      | 10-SEP-19 |
| Vanadium (V)-Dissolv                    | ed     |             | 105.2  |           | %     |     | 70-130 | 10-SEP-19 |
| Zinc (Zn)-Dissolved                     |        |             | 92.8   |           | %     |     | 70-130 | 10-SEP-19 |
|                                         |        |             |        |           |       |     |        |           |

PAH-511-WT Water



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

|                                           |       |        |      |        | Analyzed  |
|-------------------------------------------|-------|--------|------|--------|-----------|
| PAH-511-WT V                              | Vater |        |      |        |           |
| Batch R4796508                            |       |        |      |        |           |
| WG3156516-2 LCS                           |       |        | 0/   |        |           |
| 1-Methylnaphthalene                       |       | 104.3  | %    | 50-140 | 11-SEP-19 |
| 2-Methylnaphthalene                       |       | 96.3   | %    | 50-140 | 11-SEP-19 |
| Acenaphthene                              |       | 107.4  | %    | 50-140 | 11-SEP-19 |
| Acenaphthylene                            |       | 107.8  | %    | 50-140 | 11-SEP-19 |
| Anthracene                                |       | 108.2  | %    | 50-140 | 11-SEP-19 |
| Benzo(a)anthracene                        |       | 109.7  | %    | 50-140 | 11-SEP-19 |
| Benzo(a)pyrene                            |       | 105.9  | %    | 50-140 | 11-SEP-19 |
| Benzo(b)fluoranthene                      |       | 104.4  | %    | 50-140 | 11-SEP-19 |
| Benzo(g,h,i)perylene                      |       | 107.7  | %    | 50-140 | 11-SEP-19 |
| Benzo(k)fluoranthene                      |       | 106.7  | %    | 50-140 | 11-SEP-19 |
| Chrysene                                  |       | 106.7  | %    | 50-140 | 11-SEP-19 |
| Dibenzo(ah)anthracene                     |       | 105.6  | %    | 50-140 | 11-SEP-19 |
| Fluoranthene                              |       | 107.7  | %    | 50-140 | 11-SEP-19 |
| Fluorene                                  |       | 103.2  | %    | 50-140 | 11-SEP-19 |
| Indeno(1,2,3-cd)pyrene                    |       | 110.1  | %    | 50-140 | 11-SEP-19 |
| Naphthalene                               |       | 104.1  | %    | 50-140 | 11-SEP-19 |
| Phenanthrene                              |       | 107.8  | %    | 50-140 | 11-SEP-19 |
| Pyrene                                    |       | 108.9  | %    | 50-140 | 11-SEP-19 |
| <b>WG3156516-1 MB</b> 1-Methylnaphthalene |       | <0.020 | ug/L | 0.02   | 44.050.40 |
| 2-Methylnaphthalene                       |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
|                                           |       | <0.020 |      | 0.02   | 11-SEP-19 |
| Acenaphthulana                            |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Acenaphthylene Anthracene                 |       |        | ug/L | 0.02   | 11-SEP-19 |
|                                           |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Benzo(a)anthracene                        |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Benzo(a)pyrene                            |       | <0.010 | ug/L |        | 11-SEP-19 |
| Benzo(b)fluoranthene                      |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Benzo(g,h,i)perylene                      |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Benzo(k)fluoranthene                      |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Chrysene                                  |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Dibenzo(ah)anthracene                     |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Fluoranthene                              |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Fluorene                                  |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |
| Indeno(1,2,3-cd)pyrene                    |       | <0.020 | ug/L | 0.02   | 11-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                   | Matrix | Reference | Result           | Qualifier | Units        | RPD | Limit  | Analyzed  |
|----------------------------------------|--------|-----------|------------------|-----------|--------------|-----|--------|-----------|
| PAH-511-WT                             | Water  |           |                  |           |              |     |        |           |
| Batch R47965                           | 08     |           |                  |           |              |     |        |           |
| WG3156516-1 MB<br>Naphthalene          |        |           | -0.050           |           | ua/I         |     | 0.05   | 44 OFP 40 |
| Phenanthrene                           |        |           | <0.050<br><0.020 |           | ug/L<br>ug/L |     | 0.03   | 11-SEP-19 |
| Pyrene                                 |        |           | <0.020           |           | ug/L         |     | 0.02   | 11-SEP-19 |
| Surrogate: d8-Naphtl                   | halono |           | 107.8            |           | ug/∟<br>%    |     | 60-140 | 11-SEP-19 |
| Surrogate: d10-Phen                    |        |           | 107.8            |           | %            |     | 60-140 | 11-SEP-19 |
| •                                      |        |           |                  |           | %            |     | 60-140 | 11-SEP-19 |
| Surrogate: d10 Appn                    |        |           | 105.0<br>105.0   |           | %            |     | 60-140 | 11-SEP-19 |
| Surrogate: d10-Acen                    |        |           | 105.0            |           | 70           |     | 60-140 | 11-SEP-19 |
| Batch R47967                           |        |           |                  |           |              |     |        |           |
| WG3157013-2 LC3<br>1-Methylnaphthalene |        |           | 100.7            |           | %            |     | 50-140 | 11-SEP-19 |
| 2-Methylnaphthalene                    |        |           | 93.9             |           | %            |     | 50-140 | 11-SEP-19 |
| Acenaphthene                           |        |           | 103.4            |           | %            |     | 50-140 | 11-SEP-19 |
| Acenaphthylene                         |        |           | 102.6            |           | %            |     | 50-140 | 11-SEP-19 |
| Anthracene                             |        |           | 103.7            |           | %            |     | 50-140 | 11-SEP-19 |
| Benzo(a)anthracene                     |        |           | 106.2            |           | %            |     | 50-140 | 11-SEP-19 |
| Benzo(a)pyrene                         |        |           | 103.8            |           | %            |     | 50-140 | 11-SEP-19 |
| Benzo(b)fluoranthen                    | Э      |           | 104.2            |           | %            |     | 50-140 | 11-SEP-19 |
| Benzo(g,h,i)perylene                   |        |           | 107.6            |           | %            |     | 50-140 | 11-SEP-19 |
| Benzo(k)fluoranthene                   | Э      |           | 106.8            |           | %            |     | 50-140 | 11-SEP-19 |
| Chrysene                               |        |           | 104.6            |           | %            |     | 50-140 | 11-SEP-19 |
| Dibenzo(ah)anthrace                    | ene    |           | 101.7            |           | %            |     | 50-140 | 11-SEP-19 |
| Fluoranthene                           |        |           | 104.1            |           | %            |     | 50-140 | 11-SEP-19 |
| Fluorene                               |        |           | 99.6             |           | %            |     | 50-140 | 11-SEP-19 |
| Indeno(1,2,3-cd)pyre                   | ne     |           | 111.0            |           | %            |     | 50-140 | 11-SEP-19 |
| Naphthalene                            |        |           | 99.7             |           | %            |     | 50-140 | 11-SEP-19 |
| Phenanthrene                           |        |           | 103.8            |           | %            |     | 50-140 | 11-SEP-19 |
| Pyrene                                 |        |           | 104.9            |           | %            |     | 50-140 | 11-SEP-19 |
| WG3157013-1 MB                         |        |           |                  |           |              |     |        |           |
| 1-Methylnaphthalene                    |        |           | <0.020           |           | ug/L         |     | 0.02   | 11-SEP-19 |
| 2-Methylnaphthalene                    |        |           | <0.020           |           | ug/L         |     | 0.02   | 11-SEP-19 |
| Acenaphthene                           |        |           | <0.020           |           | ug/L         |     | 0.02   | 11-SEP-19 |
| Acenaphthylene                         |        |           | <0.020           |           | ug/L         |     | 0.02   | 11-SEP-19 |
| Anthracene                             |        |           | <0.020           |           | ug/L         |     | 0.02   | 11-SEP-19 |
| Benzo(a)anthracene                     |        |           | <0.020           |           | ug/L         |     | 0.02   | 11-SEP-19 |
|                                        |        |           |                  |           |              |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                              | Matrix | Reference               | Result  | Qualifier   | Units            | RPD     | Limit   | Analyzed  |
|-----------------------------------|--------|-------------------------|---------|-------------|------------------|---------|---------|-----------|
| PAH-511-WT                        | Water  |                         |         |             |                  |         |         |           |
| Batch R4796730                    |        |                         |         |             |                  |         |         |           |
| WG3157013-1 MB                    |        |                         |         |             |                  |         |         |           |
| Benzo(a)pyrene                    |        |                         | <0.010  |             | ug/L             |         | 0.01    | 11-SEP-19 |
| Benzo(b)fluoranthene              |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Benzo(g,h,i)perylene              |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Benzo(k)fluoranthene              |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Chrysene                          |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Dibenzo(ah)anthracene             |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Fluoranthene                      |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Fluorene                          |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Indeno(1,2,3-cd)pyrene            |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Naphthalene                       |        |                         | < 0.050 |             | ug/L             |         | 0.05    | 11-SEP-19 |
| Phenanthrene                      |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Pyrene                            |        |                         | <0.020  |             | ug/L             |         | 0.02    | 11-SEP-19 |
| Surrogate: d8-Naphthal            | ene    |                         | 109.1   |             | %                |         | 60-140  | 11-SEP-19 |
| Surrogate: d10-Phenan             | threne |                         | 111.1   |             | %                |         | 60-140  | 11-SEP-19 |
| Surrogate: d12-Chryser            | ne     |                         | 112.1   |             | %                |         | 60-140  | 11-SEP-19 |
| Surrogate: d10-Acenap             | hthene |                         | 110.6   |             | %                |         | 60-140  | 11-SEP-19 |
| PH-WT                             | Water  |                         |         |             |                  |         |         |           |
| Batch R4792994                    |        |                         |         |             |                  |         |         |           |
| WG3156180-4 DUP                   |        | WG3156180-3             |         |             |                  |         |         |           |
| рН                                |        | 7.76                    | 7.77    | J           | pH units         | 0.01    | 0.2     | 09-SEP-19 |
| WG3156180-2 LCS                   |        |                         | 7.04    |             | n I I unita      |         |         |           |
| рН                                |        |                         | 7.01    |             | pH units         |         | 6.9-7.1 | 09-SEP-19 |
| Batch R4793009                    |        |                         |         |             |                  |         |         |           |
| <b>WG3156288-4 DUP</b><br>pH      |        | <b>WG3156288-3</b> 8.07 | 8.04    | J           | pH units         | 0.03    | 0.2     | 09-SEP-19 |
| -                                 |        | 0.07                    | 0.04    | J           | priums           | 0.03    | 0.2     | 09-3EP-19 |
| <b>WG3156288-2 LCS</b><br>pH      |        |                         | 7.01    |             | pH units         |         | 6.9-7.1 | 09-SEP-19 |
|                                   | \M-4   |                         |         |             | ·                |         | 0.0 7.1 | 00 021 10 |
| VOC-511-HS-WT                     | Water  |                         |         |             |                  |         |         |           |
| Batch R4796329<br>WG3157712-4 DUP |        | WG3157712-3             |         |             |                  |         |         |           |
| 1,1,1,2-Tetrachloroetha           | ne     | <0.50                   | <0.50   | RPD-NA      | ug/L             | N/A     | 30      | 11-SEP-19 |
| 1,1,2,2-Tetrachloroetha           | ne     | <0.50                   | <0.50   | RPD-NA      | ug/L             | N/A     | 30      | 11-SEP-19 |
| 1,1,1-Trichloroethane             |        | <0.50                   | <0.50   | RPD-NA      | ug/L             | N/A     | 30      | 11-SEP-19 |
| 1,1,2-Trichloroethane             |        | <0.50                   | <0.50   | RPD-NA      | ug/L             | N/A     | 30      | 11-SEP-19 |
| .,.,                              |        |                         |         | 1.1. 5 14/1 | - <del>-</del> - | 1 1// 1 | 00      | 02. 10    |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                    | Matrix | Reference | Result | Qualifier | Units | RPD  | Limit | Analyzed  |
|-------------------------|--------|-----------|--------|-----------|-------|------|-------|-----------|
| VOC-511-HS-WT           | Water  |           |        |           |       |      |       |           |
| Batch R479632           | 9      |           |        |           |       |      |       |           |
| WG3157712-4 DUP         |        | WG3157712 |        |           | /1    |      |       |           |
| 1,1-Dichloroethane      |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| 1,1-Dichloroethylene    |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| 1,2-Dibromoethane       |        | <0.20     | <0.20  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| 1,2-Dichlorobenzene     |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| 1,2-Dichloroethane      |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| 1,2-Dichloropropane     |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| 1,3-Dichlorobenzene     |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| 1,4-Dichlorobenzene     |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Acetone                 |        | <30       | <30    | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Benzene                 |        | <0.50     | < 0.50 | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Bromodichloromethan     | е      | <2.0      | <2.0   | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Bromoform               |        | <5.0      | <5.0   | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Bromomethane            |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Carbon tetrachloride    |        | <0.20     | <0.20  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Chlorobenzene           |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Chloroform              |        | <1.0      | <1.0   | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| cis-1,2-Dichloroethyler | ne     | <0.50     | < 0.50 | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| cis-1,3-Dichloroproper  | ne     | <0.30     | < 0.30 | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Dibromochloromethan     | ie     | <2.0      | <2.0   | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Dichlorodifluorometha   | ne     | <2.0      | <2.0   | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Ethylbenzene            |        | <0.50     | < 0.50 | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| n-Hexane                |        | <0.50     | < 0.50 | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| m+p-Xylenes             |        | <0.40     | < 0.40 | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Methyl Ethyl Ketone     |        | <20       | <20    | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Methyl Isobutyl Ketone  | e      | <20       | <20    | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Methylene Chloride      |        | <5.0      | <5.0   | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| MTBE                    |        | <2.0      | <2.0   | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| o-Xylene                |        | <0.30     | <0.30  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Styrene                 |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Tetrachloroethylene     |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| Toluene                 |        | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| trans-1,2-Dichloroethy  | rlene  | <0.50     | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 11-SEP-19 |
| trans-1,3-Dichloroprop  |        | <0.30     | <0.30  | 5         | ug/L  | 14/1 |       | 11-SEP-19 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                       | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                              | Water  |            |        |           |       |     |        |           |
| Batch R4796329                             | 9      |            |        |           |       |     |        |           |
| WG3157712-4 DUP                            |        | WG3157712- |        |           |       |     |        |           |
| trans-1,3-Dichloroprop                     | ene    | <0.30      | <0.30  | RPD-NA    | ug/L  | N/A | 30     | 11-SEP-19 |
| Trichloroethylene                          |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 11-SEP-19 |
| Trichlorofluoromethane                     | Э      | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A | 30     | 11-SEP-19 |
| Vinyl chloride                             |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 11-SEP-19 |
| WG3157712-1 LCS<br>1,1,1,2-Tetrachloroetha | ane    |            | 102.1  |           | %     |     | 70-130 | 11-SEP-19 |
| 1,1,2,2-Tetrachloroetha                    | ane    |            | 93.2   |           | %     |     | 70-130 | 11-SEP-19 |
| 1,1,1-Trichloroethane                      |        |            | 106.9  |           | %     |     | 70-130 | 11-SEP-19 |
| 1,1,2-Trichloroethane                      |        |            | 93.3   |           | %     |     | 70-130 | 11-SEP-19 |
| 1,1-Dichloroethane                         |        |            | 107.2  |           | %     |     | 70-130 | 11-SEP-19 |
| 1,1-Dichloroethylene                       |        |            | 103.3  |           | %     |     | 70-130 | 11-SEP-19 |
| 1,2-Dibromoethane                          |        |            | 90.3   |           | %     |     | 70-130 | 11-SEP-19 |
| 1,2-Dichlorobenzene                        |        |            | 101.3  |           | %     |     | 70-130 | 11-SEP-19 |
| 1,2-Dichloroethane                         |        |            | 98.3   |           | %     |     | 70-130 | 11-SEP-19 |
| 1,2-Dichloropropane                        |        |            | 103.6  |           | %     |     | 70-130 | 11-SEP-19 |
| 1,3-Dichlorobenzene                        |        |            | 101.5  |           | %     |     | 70-130 | 11-SEP-19 |
| 1,4-Dichlorobenzene                        |        |            | 96.8   |           | %     |     | 70-130 | 11-SEP-19 |
| Acetone                                    |        |            | 89.7   |           | %     |     | 60-140 | 11-SEP-19 |
| Benzene                                    |        |            | 108.5  |           | %     |     | 70-130 | 11-SEP-19 |
| Bromodichloromethane                       | Э      |            | 96.7   |           | %     |     | 70-130 | 11-SEP-19 |
| Bromoform                                  |        |            | 92.8   |           | %     |     | 70-130 | 11-SEP-19 |
| Bromomethane                               |        |            | 99.3   |           | %     |     | 60-140 | 11-SEP-19 |
| Carbon tetrachloride                       |        |            | 108.7  |           | %     |     | 70-130 | 11-SEP-19 |
| Chlorobenzene                              |        |            | 99.7   |           | %     |     | 70-130 | 11-SEP-19 |
| Chloroform                                 |        |            | 105.0  |           | %     |     | 70-130 | 11-SEP-19 |
| cis-1,2-Dichloroethylen                    | ie     |            | 100.5  |           | %     |     | 70-130 | 11-SEP-19 |
| cis-1,3-Dichloropropen                     | е      |            | 98.2   |           | %     |     | 70-130 | 11-SEP-19 |
| Dibromochloromethane                       | е      |            | 92.5   |           | %     |     | 70-130 | 11-SEP-19 |
| Dichlorodifluoromethar                     | ne     |            | 135.2  |           | %     |     | 50-140 | 11-SEP-19 |
| Ethylbenzene                               |        |            | 96.0   |           | %     |     | 70-130 | 11-SEP-19 |
| n-Hexane                                   |        |            | 104.7  |           | %     |     | 70-130 | 11-SEP-19 |
| m+p-Xylenes                                |        |            | 97.4   |           | %     |     | 70-130 | 11-SEP-19 |
| Methyl Ethyl Ketone                        |        |            | 83.3   |           | %     |     | 60-140 | 11-SEP-19 |
| Methyl Isobutyl Ketone                     |        |            | 79.7   |           |       |     | 60-140 |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                             | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------------|--------|-----------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                                    | Water  |           |        |           |       |     |        |           |
| Batch R4796329                                   | 9      |           |        |           |       |     |        |           |
| WG3157712-1 LCS                                  |        |           | 70.7   |           | 0/    |     |        |           |
| Methyl Isobutyl Ketone                           |        |           | 79.7   |           | %     |     | 60-140 | 11-SEP-19 |
| Methylene Chloride                               |        |           | 96.6   |           | %     |     | 70-130 | 11-SEP-19 |
| MTBE                                             |        |           | 102.7  |           | %     |     | 70-130 | 11-SEP-19 |
| o-Xylene                                         |        |           | 95.4   |           | %     |     | 70-130 | 11-SEP-19 |
| Styrene                                          |        |           | 94.7   |           | %     |     | 70-130 | 11-SEP-19 |
| Tetrachloroethylene                              |        |           | 103.2  |           | %     |     | 70-130 | 11-SEP-19 |
| Toluene                                          |        |           | 98.2   |           | %     |     | 70-130 | 11-SEP-19 |
| trans-1,2-Dichloroethyl                          |        |           | 103.6  |           | %     |     | 70-130 | 11-SEP-19 |
| trans-1,3-Dichloroprop                           | ene    |           | 87.2   |           | %     |     | 70-130 | 11-SEP-19 |
| Trichloroethylene                                |        |           | 105.0  |           | %     |     | 70-130 | 11-SEP-19 |
| Trichlorofluoromethane                           | e      |           | 111.0  |           | %     |     | 60-140 | 11-SEP-19 |
| Vinyl chloride                                   |        |           | 123.8  |           | %     |     | 60-140 | 11-SEP-19 |
| <b>WG3157712-2 MB</b><br>1,1,1,2-Tetrachloroetha | ane    |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,1,2,2-Tetrachloroetha                          |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,1,1-Trichloroethane                            |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,1,2-Trichloroethane                            |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,1-Dichloroethane                               |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,1-Dichloroethylene                             |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,2-Dibromoethane                                |        |           | <0.20  |           | ug/L  |     | 0.2    | 11-SEP-19 |
| 1,2-Dichlorobenzene                              |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,2-Dichloroethane                               |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,2-Dichloropropane                              |        |           | < 0.50 |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,3-Dichlorobenzene                              |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| 1,4-Dichlorobenzene                              |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| Acetone                                          |        |           | <30    |           | ug/L  |     | 30     | 11-SEP-19 |
| Benzene                                          |        |           | < 0.50 |           | ug/L  |     | 0.5    | 11-SEP-19 |
| Bromodichloromethane                             | Э      |           | <2.0   |           | ug/L  |     | 2      | 11-SEP-19 |
| Bromoform                                        |        |           | <5.0   |           | ug/L  |     | 5      | 11-SEP-19 |
| Bromomethane                                     |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| Carbon tetrachloride                             |        |           | <0.20  |           | ug/L  |     | 0.2    | 11-SEP-19 |
| Chlorobenzene                                    |        |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
| Chloroform                                       |        |           | <1.0   |           | ug/L  |     | 1      | 11-SEP-19 |
| cis-1,2-Dichloroethylen                          | ie     |           | <0.50  |           | ug/L  |     | 0.5    | 11-SEP-19 |
|                                                  |        |           |        |           | -     |     |        | -         |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| VOC-511-HS-WT         Water           Batch R4796329         R4796329           WG3157712-2 MB         Cis-1,3-Dichloropropene         <0.30         ug/L         0.3         11-SEP-19           Dibromochloromethane         <2.0         ug/L         2         11-SEP-19           Dichlorodifluoromethane         <2.0         ug/L         2         11-SEP-19 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WG3157712-2         MB           cis-1,3-Dichloropropene         <0.30                                                                                                                                                                                                                                                                                               |
| cis-1,3-Dichloropropene         <0.30                                                                                                                                                                                                                                                                                                                                |
| Dibromochloromethane <2.0 ug/L 2 11-SEP-19                                                                                                                                                                                                                                                                                                                           |
| 0 11 021 10                                                                                                                                                                                                                                                                                                                                                          |
|                                                                                                                                                                                                                                                                                                                                                                      |
| · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                                                                                                |
| Ethylbenzene <0.50 ug/L 0.5 11-SEP-19                                                                                                                                                                                                                                                                                                                                |
| n-Hexane <0.50 ug/L 0.5 11-SEP-19                                                                                                                                                                                                                                                                                                                                    |
| m+p-Xylenes <0.40 ug/L 0.4 11-SEP-19                                                                                                                                                                                                                                                                                                                                 |
| Methyl Ethyl Ketone <20 ug/L 20 11-SEP-19                                                                                                                                                                                                                                                                                                                            |
| Methyl Isobutyl Ketone <20 ug/L 20 11-SEP-19                                                                                                                                                                                                                                                                                                                         |
| Methylene Chloride <5.0 ug/L 5 11-SEP-19                                                                                                                                                                                                                                                                                                                             |
| MTBE <2.0 ug/L 2 11-SEP-19                                                                                                                                                                                                                                                                                                                                           |
| o-Xylene <0.30 ug/L 0.3 11-SEP-19                                                                                                                                                                                                                                                                                                                                    |
| Styrene <0.50 ug/L 0.5 11-SEP-19                                                                                                                                                                                                                                                                                                                                     |
| Tetrachloroethylene <0.50 ug/L 0.5 11-SEP-19                                                                                                                                                                                                                                                                                                                         |
| Toluene <0.50 ug/L 0.5 11-SEP-19                                                                                                                                                                                                                                                                                                                                     |
| trans-1,2-Dichloroethylene <0.50 ug/L 0.5 11-SEP-19                                                                                                                                                                                                                                                                                                                  |
| trans-1,3-Dichloropropene <0.30 ug/L 0.3 11-SEP-19                                                                                                                                                                                                                                                                                                                   |
| Trichloroethylene <0.50 ug/L 0.5 11-SEP-19                                                                                                                                                                                                                                                                                                                           |
| Trichlorofluoromethane <5.0 ug/L 5 11-SEP-19                                                                                                                                                                                                                                                                                                                         |
| Vinyl chloride         <0.50         ug/L         0.5         11-SEP-19                                                                                                                                                                                                                                                                                              |
| Surrogate: 1,4-Difluorobenzene         96.3         %         70-130         11-SEP-19                                                                                                                                                                                                                                                                               |
| Surrogate: 4-Bromofluorobenzene         89.7         %         70-130         11-SEP-19                                                                                                                                                                                                                                                                              |
| WG3157712-5 MS WG3157712-3                                                                                                                                                                                                                                                                                                                                           |
| 1,1,1,2-Tetrachloroethane 101.7 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                   |
| 1,1,2,2-Tetrachloroethane 109.8 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                   |
| 1,1,1-Trichloroethane 105.1 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                       |
| 1,1,2-Trichloroethane 99.7 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                        |
| 1,1-Dichloroethane 106.8 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                          |
| 1,1-Dichloroethylene 96.6 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                         |
| 1,2-Dibromoethane 100.1 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                           |
| 1,2-Dichlorobenzene 101.0 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                         |
| 1,2-Dichloroethane 106.3 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                          |
| 1,2-Dichloropropane 106.8 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                         |
| 1,3-Dichlorobenzene 98.3 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                          |
| 1,4-Dichlorobenzene 94.2 % 50-140 11-SEP-19                                                                                                                                                                                                                                                                                                                          |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                    | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT           | Water  |            |        |           |       |     |        |           |
| Batch R479632           | 9      |            |        |           |       |     |        |           |
| WG3157712-5 MS          |        | WG3157712- |        |           | 04    |     |        |           |
| Acetone                 |        |            | 103.5  |           | %     |     | 50-140 | 11-SEP-19 |
| Benzene                 |        |            | 108.2  |           | %     |     | 50-140 | 11-SEP-19 |
| Bromodichloromethan     | е      |            | 99.0   |           | %     |     | 50-140 | 11-SEP-19 |
| Bromoform               |        |            | 100.8  |           | %     |     | 50-140 | 11-SEP-19 |
| Bromomethane            |        |            | 94.7   |           | %     |     | 50-140 | 11-SEP-19 |
| Carbon tetrachloride    |        |            | 101.9  |           | %     |     | 50-140 | 11-SEP-19 |
| Chlorobenzene           |        |            | 98.8   |           | %     |     | 50-140 | 11-SEP-19 |
| Chloroform              |        |            | 104.4  |           | %     |     | 50-140 | 11-SEP-19 |
| cis-1,2-Dichloroethyler |        |            | 101.7  |           | %     |     | 50-140 | 11-SEP-19 |
| cis-1,3-Dichloroproper  | ne     |            | 103.1  |           | %     |     | 50-140 | 11-SEP-19 |
| Dibromochloromethan     | ie     |            | 97.2   |           | %     |     | 50-140 | 11-SEP-19 |
| Dichlorodifluorometha   | ne     |            | 104.6  |           | %     |     | 50-140 | 11-SEP-19 |
| Ethylbenzene            |        |            | 93.0   |           | %     |     | 50-140 | 11-SEP-19 |
| n-Hexane                |        |            | 95.7   |           | %     |     | 50-140 | 11-SEP-19 |
| m+p-Xylenes             |        |            | 93.3   |           | %     |     | 50-140 | 11-SEP-19 |
| Methyl Ethyl Ketone     |        |            | 102.8  |           | %     |     | 50-140 | 11-SEP-19 |
| Methyl Isobutyl Ketone  | e      |            | 98.1   |           | %     |     | 50-140 | 11-SEP-19 |
| Methylene Chloride      |        |            | 97.7   |           | %     |     | 50-140 | 11-SEP-19 |
| MTBE                    |        |            | 102.3  |           | %     |     | 50-140 | 11-SEP-19 |
| o-Xylene                |        |            | 94.0   |           | %     |     | 50-140 | 11-SEP-19 |
| Styrene                 |        |            | 96.3   |           | %     |     | 50-140 | 11-SEP-19 |
| Tetrachloroethylene     |        |            | 96.5   |           | %     |     | 50-140 | 11-SEP-19 |
| Toluene                 |        |            | 96.1   |           | %     |     | 50-140 | 11-SEP-19 |
| trans-1,2-Dichloroethy  | rlene  |            | 100.2  |           | %     |     | 50-140 | 11-SEP-19 |
| trans-1,3-Dichloroprop  | ene    |            | 93.8   |           | %     |     | 50-140 | 11-SEP-19 |
| Trichloroethylene       |        |            | 101.5  |           | %     |     | 50-140 | 11-SEP-19 |
| Trichlorofluoromethan   | е      |            | 99.9   |           | %     |     | 50-140 | 11-SEP-19 |
| Vinyl chloride          |        |            | 110.8  |           | %     |     | 50-140 | 11-SEP-19 |

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Client: CH2M HILL CANADA LIMITED Page 15 of 15

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Michael Shiry

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                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------|
| DLHC      | Detection Limit Raised: Dilution required due to high concentration of test analyte(s).            |
| 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.        |

#### **Hold Time Exceedances:**

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

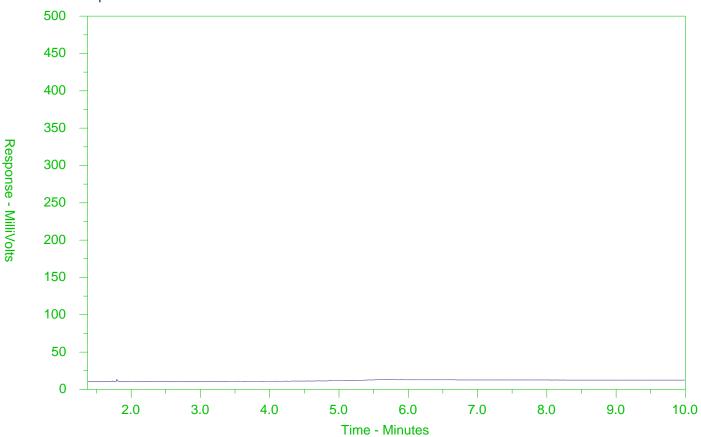
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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



ALS Sample ID: L2343122-1 Client Sample ID: MW109



| <b>←</b> -F2- | →←                                      | _F3 <b>→</b> F4- | <b>→</b> |  |  |
|---------------|-----------------------------------------|------------------|----------|--|--|
| nC10          | nC16                                    | nC34             | nC50     |  |  |
| 174°C         | 287°C                                   | 481°C            | 575°C    |  |  |
| 346°F         | 549°F                                   | 898°F            | 1067°F   |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease— |                  |          |  |  |
| •             | -Diesel/Jet                             | Fuels→           |          |  |  |

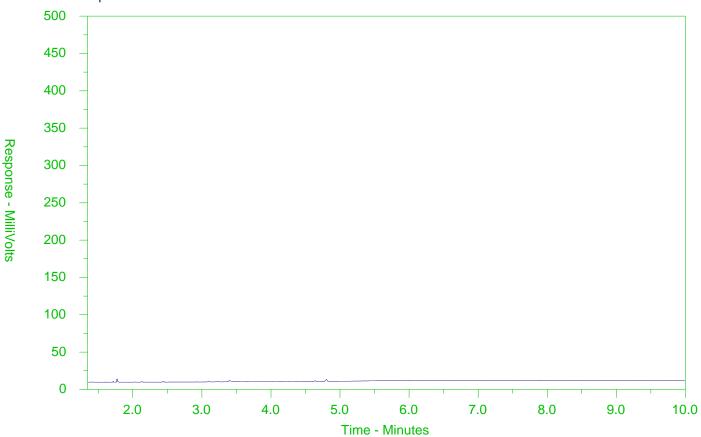
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-2 Client Sample ID: MW108



| <b>←</b> -F2- | →←                                      | _F3 <b>→</b> F4- | <b>→</b> |  |  |
|---------------|-----------------------------------------|------------------|----------|--|--|
| nC10          | nC16                                    | nC34             | nC50     |  |  |
| 174°C         | 287°C                                   | 481°C            | 575°C    |  |  |
| 346°F         | 549°F                                   | 898°F            | 1067°F   |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease— |                  |          |  |  |
| •             | -Diesel/Jet                             | Fuels→           |          |  |  |

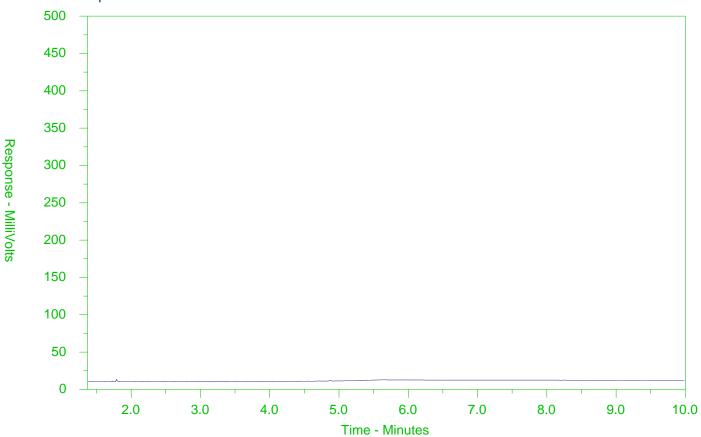
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-3 Client Sample ID: MW104



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

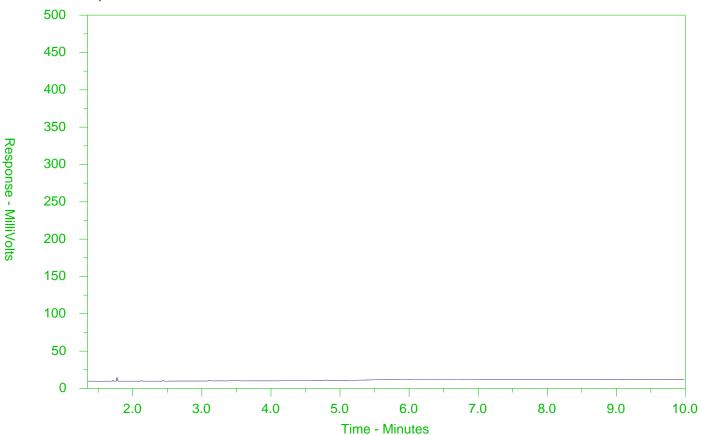
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-4 Client Sample ID: MW103



| <b>←</b> -F2- | → ←                                     | —F3——◆4—F4- | <b>→</b> |  |  |
|---------------|-----------------------------------------|-------------|----------|--|--|
| nC10          | nC16                                    | nC34        | nC50     |  |  |
| 174°C         | 287°C                                   | 481°C       | 575°C    |  |  |
| 346°F         | 549°F                                   | 898°F       | 1067°F   |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease- |             |          |  |  |
| <b>←</b>      | -Diesel/Jet                             | Fuels→      |          |  |  |

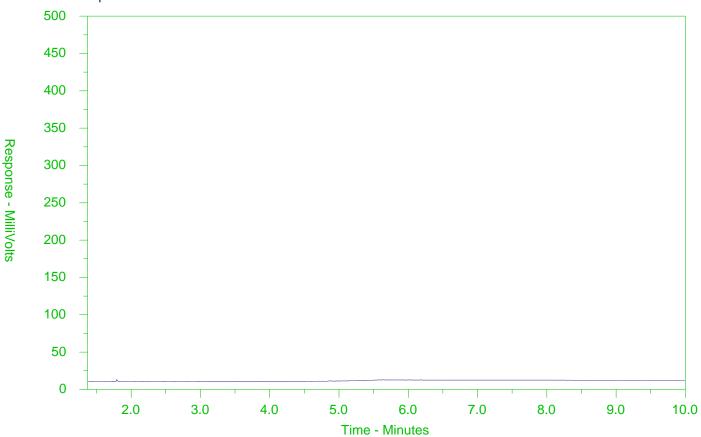
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-5 Client Sample ID: MW101



| <b>←</b> -F2- | →←                                      | _F3 <b>→</b> F4- | <b>→</b> |  |  |
|---------------|-----------------------------------------|------------------|----------|--|--|
| nC10          | nC16                                    | nC34             | nC50     |  |  |
| 174°C         | 287°C                                   | 481°C            | 575°C    |  |  |
| 346°F         | 549°F                                   | 898°F            | 1067°F   |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease— |                  |          |  |  |
| •             | -Diesel/Jet                             | Fuels→           |          |  |  |

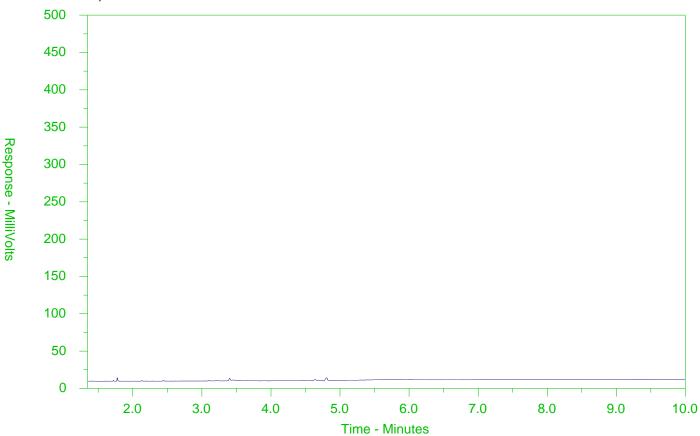
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-6 Client Sample ID: MW100



| <b>←</b> -F2- | →←                                      | _F3 <b>→</b> F4- | <b>→</b> |  |  |
|---------------|-----------------------------------------|------------------|----------|--|--|
| nC10          | nC16                                    | nC34             | nC50     |  |  |
| 174°C         | 287°C                                   | 481°C            | 575°C    |  |  |
| 346°F         | 549°F                                   | 898°F            | 1067°F   |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease— |                  |          |  |  |
| •             | -Diesel/Jet                             | Fuels→           |          |  |  |

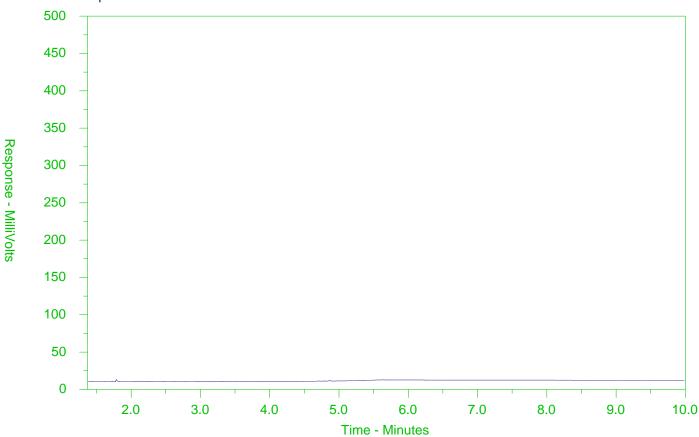
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-7 Client Sample ID: MW102A



| <b>←</b> -F2- | →←                                      | _F3 <b>→</b> F4- | <b>→</b> |  |  |
|---------------|-----------------------------------------|------------------|----------|--|--|
| nC10          | nC16                                    | nC34             | nC50     |  |  |
| 174°C         | 287°C                                   | 481°C            | 575°C    |  |  |
| 346°F         | 549°F                                   | 898°F            | 1067°F   |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease— |                  |          |  |  |
| •             | -Diesel/Jet                             | Fuels→           |          |  |  |

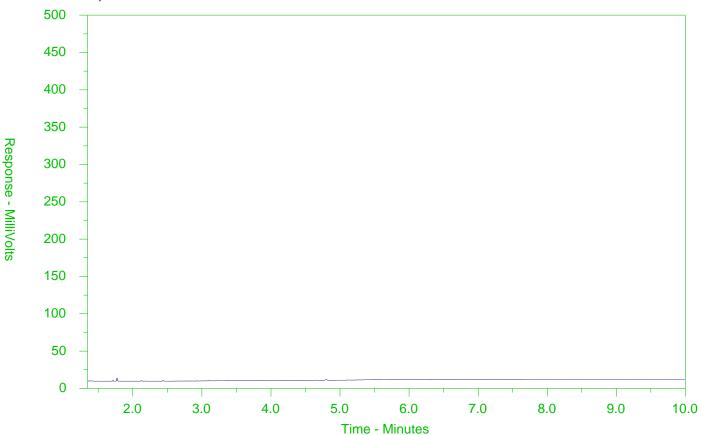
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-8 Client Sample ID: MW102B



| <b>←</b> -F2- | →←                                      | _F3 <b>→</b> F4- | <b>→</b> |  |  |
|---------------|-----------------------------------------|------------------|----------|--|--|
| nC10          | nC16                                    | nC34             | nC50     |  |  |
| 174°C         | 287°C                                   | 481°C            | 575°C    |  |  |
| 346°F         | 549°F                                   | 898°F            | 1067°F   |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease— |                  |          |  |  |
| •             | -Diesel/Jet                             | Fuels→           |          |  |  |

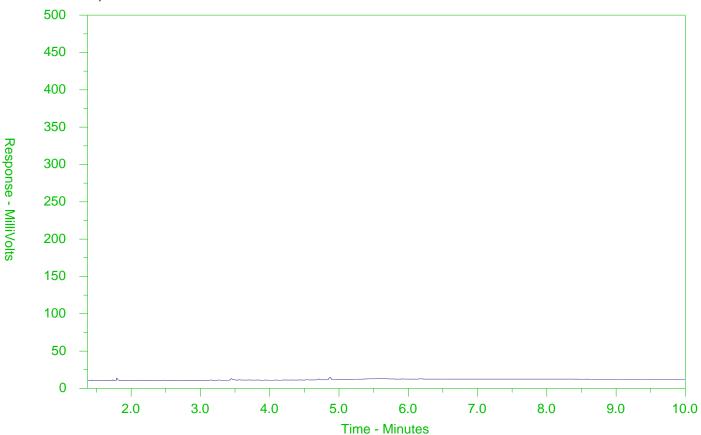
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-9 Client Sample ID: MW105



| <b>←</b> -F2- | →←                                      | _F3 <b>→</b> F4- | <b>→</b> |  |  |
|---------------|-----------------------------------------|------------------|----------|--|--|
| nC10          | nC16                                    | nC34             | nC50     |  |  |
| 174°C         | 287°C                                   | 481°C            | 575°C    |  |  |
| 346°F         | 549°F                                   | 898°F            | 1067°F   |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease— |                  |          |  |  |
| •             | -Diesel/Jet                             | Fuels→           |          |  |  |

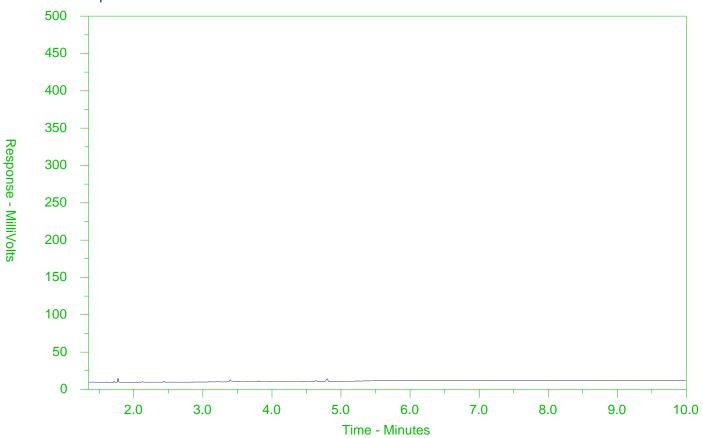
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-10 Client Sample ID: MW107



| <b>←</b> -F2- | → ←         | —F3——◆4—F4- | <b>→</b>                    |   |
|---------------|-------------|-------------|-----------------------------|---|
| nC10          | nC16        | nC34        | nC50                        |   |
| 174°C         | 287°C       | 481°C       | 575°C                       |   |
| 346°F         | 549°F       | 898°F       | 1067°F                      |   |
| Gasolin       | e <b>→</b>  | <b>←</b> M  | otor Oils/Lube Oils/Grease— | - |
| <b>←</b>      | -Diesel/Jet | Fuels→      |                             |   |

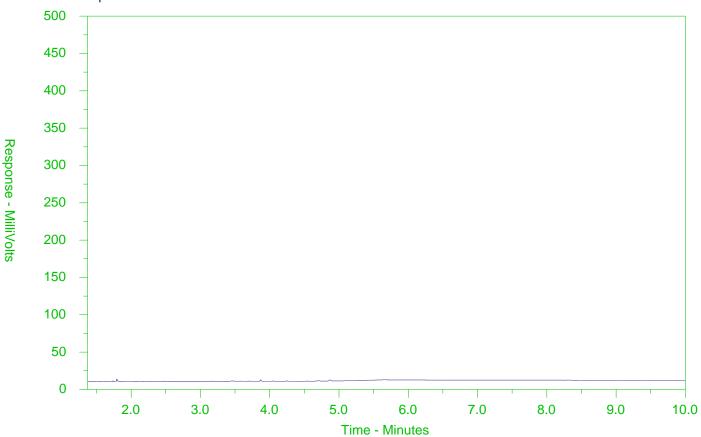
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2343122-11 Client Sample ID: MW106



| <b>←</b> -F2- | → ←         | —F3——◆4—F4- | <b>→</b>                    |   |
|---------------|-------------|-------------|-----------------------------|---|
| nC10          | nC16        | nC34        | nC50                        |   |
| 174°C         | 287°C       | 481°C       | 575°C                       |   |
| 346°F         | 549°F       | 898°F       | 1067°F                      |   |
| Gasolin       | e <b>→</b>  | <b>←</b> M  | otor Oils/Lube Oils/Grease— | - |
| <b>←</b>      | -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.

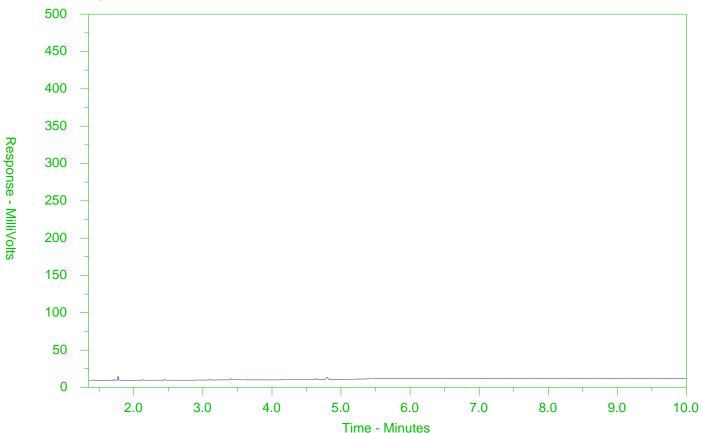
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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.



ALS Sample ID: L2343122-12

Client Sample ID: DUP1



| <b>←</b> -F2- | → ←         | _F3 <del></del> F4_ | <b>→</b>                     |   |
|---------------|-------------|---------------------|------------------------------|---|
| nC10          | nC16        | nC34                | nC50                         |   |
| 174°C         | 287°C       | 481°C               | 575°C                        |   |
| 346°F         | 549°F       | 898°F               | 1067°F                       |   |
| Gasolin       | ie →        | <b>←</b> Mo         | otor Oils/Lube Oils/Grease—— | - |
| <b>←</b>      | -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.

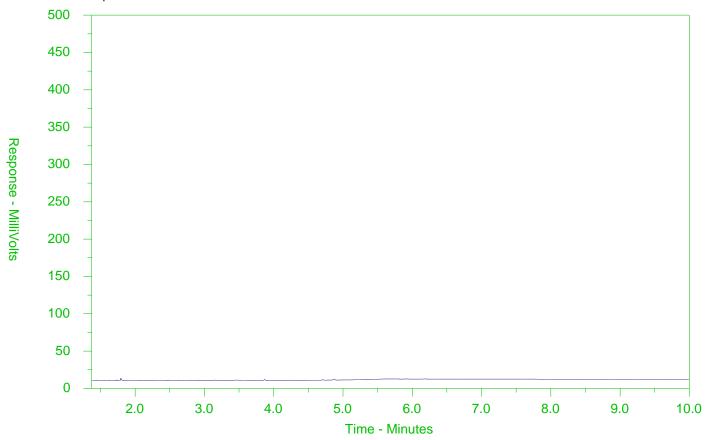
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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.



ALS Sample ID: L2343122-14

Client Sample ID: DUP3



| <b>←</b> -F2- | →←          | _F3F4-      | <b>→</b>                     |   |
|---------------|-------------|-------------|------------------------------|---|
| nC10          | nC16        | nC34        | nC50                         |   |
| 174°C         | 287°C       | 481°C       | 575°C                        |   |
| 346°F         | 549°F       | 898°F       | 1067°F                       |   |
| Gasolin       | ie →        | <b>←</b> Mo | tor 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.

# Environmental

#### Chain of Custody (COC) / Analytical Request Form

L2343122-COFC

coc Number: 17 - 826465

| <b>V</b> >                            | yyww.alsolobal.com                | Canada To                            | ll Free: 1 800 6    | 68 9876                       |                     |                 |                                                  |                         |         |                   |             | i                    |            |                      |                                        |            |               |                                                  | •                                                |                                             |
|---------------------------------------|-----------------------------------|--------------------------------------|---------------------|-------------------------------|---------------------|-----------------|--------------------------------------------------|-------------------------|---------|-------------------|-------------|----------------------|------------|----------------------|----------------------------------------|------------|---------------|--------------------------------------------------|--------------------------------------------------|---------------------------------------------|
| Report To                             |                                   | e ow will appear on the final report | 1                   | Report Format                 | / Distribution      |                 | ı                                                | Selec                   | ct See  | viće L            | evel E      | élou -               | Contac     | I your AM            | to confi                               | on all El  | SP TATS (s    | surcharges r                                     | ney apply]                                       |                                             |
| Company:                              |                                   | 40 65                                | Select Report Fo    | <u> </u>                      |                     | DO (DIGITAL)    | <del> </del>                                     |                         | ular (  | _                 | _           |                      |            | scrived by 3         |                                        |            |               |                                                  |                                                  |                                             |
| Contact:                              | M. Shim                           |                                      | •                   | (CC) Report with Rep          | ~                   | [   ND          | Ti                                               | 4 day                   | _       |                   | ĪΠ          |                      | ĝ.         | Busine               |                                        |            |               |                                                  |                                                  | <del>-   -</del>                            |
| Phone:                                | 519-579-3                         | 5かつ                                  | 1                   | ullis to Criteria on Report - | ~                   |                 | 1651                                             | 3 day                   | •       | -                 | Ħ           |                      | §          |                      |                                        |            | -             | holiday (E2                                      | 2.200%                                           | _                                           |
| 110101                                | Company address below will appear |                                      | Select Distribute   |                               | MAIL                |                 | 1 5 5 1                                          | 2 day                   | -       | •                 | ÌΤ          |                      | <b>3</b>   | Laborato             | ry open                                | ing feet   | s may app     | ply)]                                            | 2007                                             | [                                           |
| Street:                               | 172 Victoria                      |                                      |                     |                               |                     |                 | <del>  -</del>                                   | Carle sure              | J Three | Requi             | red for     | ell EQP              | TATe:      | $\top$               | • • • •                                |            | dd-mmm-       | yy Nh:mm                                         |                                                  |                                             |
| City/Province:                        | Kitchener                         | ON 3,300,630                         | Email 2 /70 j       | chael Sh                      | 14/20 14            | cobs tow        | Fortesia                                         | that same               | not be  | pertore           | ed spec     | rating to            | the seco   | ça lávál bálát       | sed, you wi                            | l be conte | riad.         |                                                  |                                                  |                                             |
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| Involce Ta                            | Same as Report To                 | IX YEST   NO                         |                     | Invoice Di                    | stribution          | -               | П                                                |                         |         | Indica            | e Fite      | ed (F). I            | reserve    | d  P) or F <b>≡e</b> | red and Pr                             | eservod (l | -/P) below    |                                                  |                                                  | Τ̈́                                         |
|                                       | Copy of Invoice with Report       | X YES NO                             | Select Invoice D    | istribulian                   | MAIL MAIL           | FAX             | 121                                              | Π.                      | ]       | _ ]               |             |                      |            |                      | I                                      | -          |               |                                                  | 15                                               | SUSPECTED HAZARD (see Special (natructions) |
| Company:                              | CH2M H11                          |                                      | Emgil 1 or Fax      | Acco                          | en Os Aa            | mille           | ושו                                              | <b>3</b>                | ٦,      | 7                 | 83          | Ţ                    | $\neg$     |                      |                                        |            |               | 1                                                | 로                                                | 1 5                                         |
| Contact.                              | Victoria Pe                       | etus                                 | Email 2             |                               |                     | 0               | 1₹1                                              | M                       | ৽ৠ      | Ž                 | 90          |                      | - 1        | ĺ                    |                                        |            |               | 1                                                | I                                                | 1 2                                         |
|                                       | Project Informati                 |                                      | , · · ·             | Oll and Gas Require           | d Fielde (client u  | 50)             | ]≧                                               | *4                      | Ş       | ٠,                | 121         |                      |            |                      |                                        |            | l             | 1                                                |                                                  | <u> 9</u>                                   |
| ALS Account #                         | /Quote # 01142                    |                                      | AFE/Cost Ger#ar     |                               | PÓ#                 |                 | CONTAINERS                                       | ₹<br>1                  | ×       | ر ا               | <u>.</u> _  |                      |            |                      |                                        |            |               | t                                                | 8                                                | å                                           |
| Job#                                  | CE731900                          | , A . CS. EV. FI. M-i                | Digo-Maror Code     |                               | Routing Code:       |                 | ]ၓ                                               |                         | Į.      | Ĭ,                | Ľ.          |                      |            | ļ                    |                                        |            |               | <b>i</b>                                         | S                                                | }                                           |
| POTAFE:                               | , .                               |                                      | Requisitioner:      |                               |                     |                 | 님님                                               | 13                      | S       |                   | 4           | .                    |            | - 1                  |                                        | 1          |               | 1                                                | lш                                               | ê                                           |
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| 64 64 -1-44-                          | ork Order # (tab use only):   7   | 7/17/17/1                            | ALS Contact:        |                               | Sampler: V          | Dale 15         | ]版[                                              | Z                       | Š       | W                 | $\searrow$  | (s                   | <u>~</u> ; |                      |                                        |            |               | 1                                                | 0-                                               | Į                                           |
| with the late                         | AN CAMPA & (see state during).    | -)4/166                              | ALS COMMECT.        |                               | Samples: U ,        | 16102           | J₽I                                              | 124                     | 6       | $\pm$             | Ÿ           | 0                    | ⋦          |                      |                                        |            |               | 1                                                | Σ                                                | 5                                           |
| ALS Sample #                          | Sample ide                        | ntification and/or Coordinates       |                     | Date                          | Time                | Sample Type     | NUMBER                                           | <u>S</u> I              | 2       | $\mathcal{Z}$     | 王           | $\geq$               | 37         |                      |                                        |            |               |                                                  |                                                  | 18                                          |
| (lab use only)                        |                                   | ription will appear on the report)   |                     | (dd-mmm-yy)                   | (Mr:mm)             |                 | LZ.                                              |                         | =       | 1                 | <u> </u>    | 4                    | _          | -                    |                                        | -          | —             | <del></del>                                      | S                                                |                                             |
|                                       | MWIOG                             |                                      |                     | 05-01-17                      | 9:50                | water           | $\perp \perp$                                    | $\mathbf{X} \downarrow$ | X       | Х.                | Υ           | $\boldsymbol{x}_{-}$ |            |                      | $\downarrow \downarrow$                |            |               |                                                  | <b>↓</b>                                         | 12                                          |
|                                       | L MW 108                          |                                      | _                   | 05-09-19                      | 11:20               | 1               |                                                  | Ш                       | 1       |                   | 1           |                      |            |                      | lacksquare                             |            |               |                                                  |                                                  | 2                                           |
|                                       | MW 104                            |                                      |                     | 05-03-19                      | 13:10               |                 |                                                  | 11                      | Ш       |                   |             |                      | X          |                      |                                        |            |               |                                                  |                                                  | 10                                          |
|                                       | MN/103                            |                                      |                     | 05-09-19                      | 14:45               |                 | ī                                                | П                       | П       | $\mathbf{T}$      | Ţ           |                      | i          |                      | 1                                      | [          | T             | [ ]                                              | 1                                                | 79                                          |
|                                       | MNJIDI                            |                                      |                     | 05-09-19                      | 16:50               |                 |                                                  | $\Box$                  | 7       | <b>T</b>          |             |                      |            |                      |                                        | ī          |               |                                                  |                                                  | 19                                          |
|                                       | MW IM                             |                                      |                     | 06-07-19                      | 7:50                | <del>  </del>   | $\dagger$                                        | - <b>-}</b> -           | 1       | ┪                 |             |                      |            |                      | 1 1                                    | $\neg$     |               |                                                  | 1                                                | 19                                          |
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| <del>- : :</del>                      | MW 102-A                          |                                      |                     | T                             | 1                   | <del>  </del>   | <del>!                                    </del> | <del>-  </del>          | ╫       |                   | +           | ╁                    |            | _                    | +                                      | $\dashv$   | _             | <del>                                     </del> | <del>                                     </del> | 14                                          |
| . :                                   | MW 1058                           |                                      |                     | 01-09-19                      | 11:10               | <del> </del>    | ╁─┼                                              | ╫                       | ╃╢      | ╄                 | $\vdash$    |                      | $\dashv$   | -                    | +                                      | $\dashv$   | $\rightarrow$ | $\vdash$                                         | <del></del>                                      | 10                                          |
| · · · · · · · · · · · · · · · · · · · | MUJOS                             |                                      |                     | 06-09-19                      | 11:50               | <del></del>     | <del>  </del>                                    | -#+                     | -  -    | +                 | Щ           | $\square$            | -          |                      | +                                      | $\dashv$   |               | <b>├├</b>                                        | ₩                                                | 17                                          |
|                                       | mw lot                            |                                      |                     | 01-09-19                      | 13:20               | ┷┷              | $\downarrow \rightarrow$                         | 4                       | 41      | Д,                | Щ           | $\Box$               |            |                      | $\perp \perp$                          |            | -             | $\vdash$                                         | <b>↓</b> .—.                                     | 1                                           |
|                                       | MW106                             |                                      |                     | 06-19-19                      | 14:50               | , J             |                                                  | 4                       |         | ┸                 | ı           | -                    |            |                      | $\perp \perp$                          |            |               | <u> </u>                                         |                                                  | 9                                           |
| -                                     | DUPI                              |                                      |                     | 05-05-19                      | <del></del> -       | Water           |                                                  | $\boldsymbol{x}$        | ΧI      | х                 | X           | Х                    |            |                      |                                        |            |               |                                                  |                                                  | <u> </u>                                    |
| Deleki                                | ng Water (DW) Samples' (client us | Special Instructions /               | Specify Criteria to | add on report by clic         | king on the drop-d  | lown list below |                                                  | -                       |         |                   | 8/          |                      |            | A MONTKO             |                                        |            | p nee or      | _1                                               |                                                  | _                                           |
|                                       | en from a Regulated DW System?    | ···                                  | i etc               | estranic COC only)            |                     |                 | Frozer                                           |                         |         |                   |             |                      |            | noilevread           |                                        | Yes        | 片             | No                                               |                                                  |                                             |
| 1 '                                   | YES X NO                          | O. Reg 1                             | 53/04               |                               |                     |                 |                                                  | cial:<br>g initial      |         | 710a ()<br>  [77] | ubas        | 12                   | Crespo     | dy seal int          | act : ·                                | Yes        |               | No                                               |                                                  |                                             |
| 1                                     | human consumption/ use?           |                                      | ,                   |                               |                     |                 | - COOM 1                                         | <u> </u>                | _       | <u>. — .</u>      | D 7E4       | GCDAT                | URES (     |                      | 1                                      |            | NAL COOL      | R TEMPERAT                                       | NICEO OT                                         |                                             |
| 1                                     | N.                                | ·                                    |                     |                               |                     |                 |                                                  | <u> </u>                | N       |                   |             | ren <sub>e</sub> n   | UNDS 1     | ,                    | ₹.                                     |            |               | K IEMPEKKI                                       | - T                                              | -                                           |
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| 11/17/6 N                             | 484 - 2019                        | 1/9/6 16 47                          |                     |                               |                     |                 |                                                  | -                       | ;       |                   | /-          | •                    |            |                      | 79/                                    | 06         | /ra           |                                                  | 16:4                                             | <b>1</b>                                    |
| REFER TO BACK                         | PAGE FOR ALS LOCATIONS AND SAI    | MPLING INFORMATION                   | -                   | WH                            | THE LABORATORY      | Y COPY YELLE    | W - CLIE                                         | N1 CO                   | Ογ      |                   |             |                      |            |                      |                                        |            | -             |                                                  | 4*                                               | HÇ ZOLD FATO                                |



#### Chain of Custody (COC) / Analytical Request Form

Canada Toli Free: 1 800 668 9878

L2343122-COFC

000 Number: 17 - 826466



|                                | www.alsolobal.com                                                                     |                                              |                                                |                                                |                                                  |                                                  |                                                  |                                              |                  |                |                       |             |               |               |               |                 |             |                                                  |
|--------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------|------------------------------------------------|------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|----------------------------------------------|------------------|----------------|-----------------------|-------------|---------------|---------------|---------------|-----------------|-------------|--------------------------------------------------|
| Report To                      | Contact and company name below will appear on the final report                        |                                              | Report Format                                  | / Distribution                                 |                                                  | S4                                               | lect Ser                                         | vice Lev                                     | el Belo          | w - Cont       | act your              | AM to co    | often all     | E&P TATE      | ı (surcha     | rges ma         | / apply)    |                                                  |
| Company.                       | CH2M HILL Jacobs                                                                      | Seloc: Report F                              | ormat: Ros                                     | EXCEL X E                                      | DO (DIGITAL)                                     | Re                                               | gular (                                          | R] 🚺                                         | Stand            | lard TAT il    | received by           | y 3 pm + 5  | usiness da    | vs - no surd  | harges app    | γ               |             |                                                  |
| Contact.                       | $M \cdot S P' \mathcal{N}_i$                                                          | Quality Control                              | (QC) Report with Rep                           |                                                | NO                                               | ું ફે 4 તા                                       | y [P4-2                                          | 10%) [                                       |                  | Pile C         | 1 Busi                | ness da     | y [€ - 10     | 0%]           |               |                 |             |                                                  |
| Phone:                         | C 19-579-3500                                                                         | Compare Re                                   | sulls to Criteria on Report -                  |                                                |                                                  | tuda 3 da<br>2 da<br>2 da                        | y [P3-2                                          | 5%] [                                        | 7]               | E              | Same D                | lay, Wes    | skend ar      | Statutor      | ry holida     | ly [E2 -7       | :00%        |                                                  |
|                                | Company address below will appear on the final report.                                | Select Distribut                             | ior:   EMAJL                                   | MAJL                                           | FAX                                              | ± 2 da                                           | y [P2- <del>5</del>                              | 0%] [                                        |                  | 1 *            |                       |             |               | es may a      |               |                 |             | ㄴ                                                |
| Street                         | 72 Victoria St.S Sutr 300                                                             | Fmail 1 or Fax                               | as Der                                         | quote                                          |                                                  | Dele                                             | ynd Tiese                                        | Required                                     | for all E        | SP TAYE        |                       |             |               | dd-mn'        | m-yy hh:      | :mm             |             |                                                  |
| Crty/Province:                 | Vitchener ON                                                                          | Email 2 	 (                                  |                                                |                                                | بأطردولية، دو                                    | der mete mate                                    | an not be                                        | performed i                                  | rearding         | 60 the sec     | ykse løyel sa         | lected, you | , will be com | riscted       |               |                 |             |                                                  |
| Postal Code:                   | W26 447                                                                               | Email 3                                      |                                                | 707                                            | ,,,                                              |                                                  |                                                  |                                              |                  |                |                       | ysis Roc    |               |               |               |                 |             |                                                  |
| Invoice To                     | Same as Report To YES   NO                                                            |                                              | Invoice Di                                     | stribution                                     |                                                  |                                                  |                                                  | Indicate P                                   | Mered II         | F), Preser     | ved (P) or F          | Hered and   | J Preserved   | d (F/P) belov | ų             |                 |             | [ ~                                              |
|                                | Copy of Invoice with Report YES   NO                                                  | Select Invoice (                             | Distribution: 🗶 🛭 🛭                            | MAIL MAIL                                      | ГАХ                                              | CONTAINERS                                       |                                                  |                                              |                  |                |                       |             | T             |               |               |                 |             | 1 E                                              |
| Company:                       | CHZM Hill Facobs                                                                      | Email 1 or Fax                               | Acrou                                          | nts Pay                                        | able                                             |                                                  | <u>}</u>                                         | ক্লাৰ                                        | 9                | $\top$         |                       | 丁           | $\top$        |               | $\top$        | П               | 9           | 192                                              |
| Contact:                       | Mishiry                                                                               | Email 2                                      |                                                | <del> ,                                 </del> |                                                  | ] ≨   ₹                                          | 1                                                | €  }                                         | <u>5</u>         |                |                       |             |               | . !           |               |                 | Ì           | 5                                                |
|                                | Project information                                                                   |                                              | Oil and Gas Require                            | d Fields (client u                             | FO)                                              | NTAIN                                            | 3                                                |                                              |                  |                |                       | ĺ           |               | . 1           |               | 1               | Z           | 23                                               |
| ALS Account #                  |                                                                                       | AFE/Cost Center.                             |                                                | 20#                                            |                                                  | ]蒸 ≝                                             |                                                  | <u>,                                    </u> | اغ               |                |                       |             |               | . ]           |               |                 | ō           | å.                                               |
|                                | 75 1900. A.CS. EV, 19, 19-01                                                          | Major/Minor Code.                            |                                                | Routing Code:                                  |                                                  | ]ၓ  ၭ                                            | ÞX                                               | ~~                                           | _                |                |                       |             |               | . 1           | 1 !           |                 |             | #                                                |
| PO / AFE:                      | <u> </u>                                                                              | Requisitioner:                               |                                                |                                                |                                                  | 유                                                | 1 7                                              |                                              |                  |                | .                     |             |               | .             | /             |                 | Ш           | ě                                                |
| LSD:                           |                                                                                       | Location:                                    |                                                |                                                |                                                  | I I . ~                                          | ž                                                |                                              |                  |                |                       |             |               | .             |               |                 | <b>=</b>    | 15                                               |
| ALS Lab Wo                     | rk Order # (lab use only):   72//3/72                                                 | ALS Contact:                                 |                                                | Sampler: V                                     | Patrics                                          | NUMBER                                           | 7                                                | 된.                                           | <u>-</u>         | _v             |                       |             |               |               |               |                 | Σ           | SUSPECTED HAZARD (see Special Instructions)      |
|                                | LC747166                                                                              |                                              | ·/·                                            | <del> </del> -                                 | 1-010-0                                          | ᇍ                                                | ि हो                                             | <b>⊃</b>                                     | י ונ             | ᆁᄌ             |                       |             |               | .             |               |                 | 4           | <u> </u>                                         |
| ALS Sample 8<br>(lab use only) | Sample Identification and/or Coordinates (This description will appear on the report) |                                              | Date<br>lod-mmm-yy;                            | Time                                           | Sample Type                                      | NUMBE!                                           | ingu                                             | 9                                            |                  | ₹.<br>         | ]                     |             |               |               |               |                 | Š           | Sus                                              |
| <del></del>                    | 10182                                                                                 |                                              | 05-09-19                                       | <del> </del>                                   | Water                                            | 1                                                |                                                  | <del></del>                                  | <del>- </del>    | X              | <del>}+</del>         | 十           | $\top$        |               | +             |                 |             | 4                                                |
|                                | Dul3                                                                                  |                                              | 06-09-19                                       |                                                | water                                            |                                                  | X                                                | $\mathbf{z}^{\dagger}\mathbf{x}$             | / <del>  x</del> | <del>//~</del> | $\vdash$              | +           | †             |               | +             | ┝═╅             |             | 9                                                |
|                                |                                                                                       |                                              | 00 01-17                                       |                                                | 8C                                               | <del>       </del>                               | ┍╌┪                                              | ~                                            | +0               | 7              | ╂╍╌┼╌                 | +           | +             | -+            | +             | $\vdash \vdash$ |             | +/-                                              |
|                                | TB-001                                                                                |                                              |                                                |                                                |                                                  |                                                  | <del>                                     </del> | _                                            | +3               | ╁              |                       | +           | +-+           |               | <del></del> ' | $\vdash$        |             | <del>  '</del> -                                 |
| ļ                              | T B-002                                                                               |                                              |                                                |                                                | QC                                               | <del>                                     </del> | <del>! :</del>                                   | $\rightarrow$                                | -12              | 4_             | ┞                     | +           | ╀             | -             |               | $\vdash$        |             | <del>  '-</del> -                                |
|                                |                                                                                       |                                              |                                                |                                                |                                                  |                                                  | <b>↓</b>                                         | $\perp$                                      | $\perp$          |                | $\sqcup$              | $\bot$      |               |               |               | $\sqcup$        |             | ┷                                                |
| Ĺ                              |                                                                                       |                                              |                                                |                                                | 1                                                |                                                  |                                                  |                                              |                  |                |                       |             |               |               |               |                 |             | <u> </u>                                         |
|                                |                                                                                       |                                              | · ·                                            |                                                |                                                  | TT                                               | T                                                |                                              | [                |                |                       |             |               |               |               |                 |             |                                                  |
|                                |                                                                                       |                                              |                                                |                                                |                                                  |                                                  |                                                  |                                              | $\top$           |                |                       | $\top$      | $\top$        |               | $\top$        |                 |             |                                                  |
|                                |                                                                                       |                                              |                                                |                                                |                                                  | <del>  </del>                                    | <del>  </del>                                    |                                              | +                | +              | T                     | +           | +             |               | $\top$        |                 |             | <del>                                     </del> |
|                                | · · · · · · · · · · · · · · · · · · ·                                                 |                                              |                                                | •                                              |                                                  |                                                  | $\vdash$                                         | -                                            | +                | +              | !                     | +           | +             |               | +-            | ┼               |             | +                                                |
|                                | · · ·                                                                                 |                                              |                                                |                                                | <del>                                     </del> |                                                  | $\vdash$                                         | _                                            | +-               | <del></del>    | ┝┈┈┤╴                 | -           | ┦             | -             | +-            | $\vdash$        |             | <del>                                     </del> |
|                                |                                                                                       |                                              |                                                |                                                | <del> </del>                                     | <del> </del>                                     | <del></del><br>╃╾╾┥                              |                                              |                  |                | }}                    | +           | +             |               | ——            | ₩               |             | <del> </del> -                                   |
|                                |                                                                                       |                                              | <u> </u>                                       |                                                |                                                  |                                                  |                                                  |                                              |                  |                |                       |             |               |               |               | ot              |             | <sup>;</sup>                                     |
| Drinkin                        | g Water (DW) Samples* (client use) Special instructions                               |                                              | e add on report by clici<br>ectronic COC only] | king on the drop-di                            | own list bolow                                   | F                                                |                                                  | П                                            | 5AMP             |                |                       |             | Yes           | (lab use      | onlyj         | No              | <del></del> | <del></del>                                      |
|                                | in from a Populated INV Sustant?                                                      | <del></del>                                  |                                                |                                                |                                                  | Frozen<br>toe Packa                              | <b>62</b>                                        |                                              | 6                |                | Observedi<br>Ody seal | -           | Yee           | 片             |               | No              |             |                                                  |
|                                | es No                                                                                 | 3/04 ~                                       | excel                                          |                                                |                                                  | Cooling Ini                                      | _                                                |                                              | 36 <u>C</u>      | _ COR          | ouy asa               | IIII        | 148           |               |               | MU              | '           | _                                                |
|                                | numen consumption/ use?                                                               |                                              |                                                |                                                |                                                  | 7                                                |                                                  | COOLER 1                                     | EMPÉR            | ATURES         | <del></del>           |             |               | FINAL COL     | OLER TEM      | PERATUR         | ES °C       |                                                  |
| l 11-v                         | rs <b>V</b> / wo                                                                      |                                              |                                                |                                                |                                                  |                                                  |                                                  | 1                                            |                  | 1              |                       | Ta          | 16            |               |               | <u> </u>        |             |                                                  |
| <u></u>                        | SHIPMENT RELEASE (client use)                                                         | <del></del>                                  | INITIAL SHIPMEN                                | T RECEPTION IL                                 | b use only)                                      | L                                                |                                                  |                                              |                  | FINA           | L SHIPE               |             |               | DN (lab u     | ise only      | <del> </del>    | <u> </u>    |                                                  |
| Released by:                   | Time: ( )                                                                             | Received by:                                 | ·· -isinin mani muli                           | Date:                                          |                                                  | Time:                                            | Recei                                            | lved by:                                     | V                |                |                       | lale        |               |               |               |                 | le:Ψ        |                                                  |
| <u> </u>                       | Petra 2019/9/6 16.4                                                                   | <u>/                                    </u> |                                                |                                                |                                                  |                                                  |                                                  | /                                            | <u>~</u>         |                |                       | <u>09</u>   | <u>/00</u>    | 0//4          | <u> </u>      |                 |             |                                                  |
| REFER TO BACK                  | PAGE FOR MES LOCATIONS AND SAMPLING INFORMATION                                       |                                              | WHI                                            | TE - LABORATORY                                | COPY YELLON                                      | N - CLIENT C                                     | OPY                                              |                                              |                  |                | •                     |             |               |               |               |                 | 4.00        | e boug FROME                                     |



CH2M HILL CANADA LIMITED

ATTN: MICHAEL SHIRY

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 24-SEP-19

Report Date: 26-SEP-19 09:09 (MT)

Version: FINAL

Client Phone: 519-579-3500

# **Certificate of Analysis**

Lab Work Order #: L2352720

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900 C of C Numbers: 17-819317

Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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L2352720 CONTD....

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| E751900                                 |                | _         |              |              | KEPUK     |      | Page 2 of 6<br>26-SEP-19 09:09 (N |
|-----------------------------------------|----------------|-----------|--------------|--------------|-----------|------|-----------------------------------|
| Sample Details<br>Grouping Analyte      | Result         | Qualifier | D.L.         | Units        | Analyzad  |      |                                   |
| Grouping Analyte                        | Resuit         | Qualifier | U.L.         | UTIILS       | Analyzed  |      | Guideline Limits                  |
| .2352720-1 MW101                        |                |           |              |              |           |      |                                   |
| Sampled By: M.SHIRY on 24-SEP-19 @ 10:1 | 16             |           |              |              |           | #1   |                                   |
| Matrix: WATER                           |                |           |              |              |           | #1   |                                   |
| Volatile Organic Compounds              |                |           |              |              |           |      |                                   |
| Acetone                                 | <30            |           | 30           | ug/L         | 26-SEP-19 | 2700 |                                   |
| Benzene                                 | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| Bromodichloromethane                    | 7.1            |           | 2.0          | ug/L         | 26-SEP-19 | *2   |                                   |
| Bromoform                               | <5.0           |           | 5.0          | ug/L         | 26-SEP-19 | 5    |                                   |
| Bromomethane                            | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.89 |                                   |
| Carbon tetrachloride                    | <0.20          |           | 0.20         | ug/L         | 26-SEP-19 | 0.2  |                                   |
| Chlorobenzene                           | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| Dibromochloromethane                    | 4.5            |           | 2.0          | ug/L         | 26-SEP-19 | *2   |                                   |
| Chloroform                              | 11.9           |           | 1.0          | ug/L         | 26-SEP-19 | *2   |                                   |
| 1,2-Dibromoethane                       | <0.20          |           | 0.20         | ug/L         | 26-SEP-19 | 0.2  |                                   |
| 1,2-Dichlorobenzene                     | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.2  |                                   |
| 1,3-Dichlorobenzene                     | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| 1,4-Dichlorobenzene                     | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| Dichlorodifluoromethane                 | <2.0           |           | 2.0          | ug/L         | 26-SEP-19 | 590  |                                   |
| 1,1-Dichloroethane                      | <0.50          |           | 0.50         | ug/L<br>ug/L | 26-SEP-19 | 0.5  |                                   |
| 1,2-Dichloroethane                      | <0.50          |           | 0.50         | ug/L<br>ug/L | 26-SEP-19 | 0.5  |                                   |
| 1,1-Dichloroethylene                    | <0.50          |           | 0.50         | -            | 26-SEP-19 | 0.5  |                                   |
| cis-1,2-Dichloroethylene                | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 |      |                                   |
| •                                       |                |           |              | ug/L         |           | 1.6  |                                   |
| trans-1,2-Dichloroethylene              | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 1.6  |                                   |
| Methylene Chloride                      | <5.0           |           | 5.0          | ug/L         | 26-SEP-19 | 5    |                                   |
| 1,2-Dichloropropane                     | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| cis-1,3-Dichloropropene                 | <0.30          |           | 0.30         | ug/L         | 26-SEP-19 |      |                                   |
| trans-1,3-Dichloropropene               | <0.30<br><0.50 |           | 0.30<br>0.50 | ug/L         | 26-SEP-19 | 0.5  |                                   |
| 1,3-Dichloropropene (cis & trans)       |                |           |              | ug/L         | 26-SEP-19 | 0.5  |                                   |
| Ethylbenzene                            | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| n-Hexane                                | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 5    |                                   |
| Methyl Ethyl Ketone                     | <20            |           | 20           | ug/L         | 26-SEP-19 | 400  |                                   |
| Methyl Isobutyl Ketone                  | <20            |           | 20           | ug/L         | 26-SEP-19 | 640  |                                   |
| MTBE                                    | <2.0           |           | 2.0          | ug/L         | 26-SEP-19 | 15   |                                   |
| Styrene                                 | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| 1,1,1,2-Tetrachloroethane               | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 1.1  |                                   |
| 1,1,2,2-Tetrachloroethane               | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| Tetrachloroethylene                     | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| Toluene                                 | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.8  |                                   |
| 1,1,1-Trichloroethane                   | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| 1,1,2-Trichloroethane                   | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| Trichloroethylene                       | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| Trichlorofluoromethane                  | <5.0           |           | 5.0          | ug/L         | 26-SEP-19 | 150  |                                   |
| Vinyl chloride                          | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 0.5  |                                   |
| o-Xylene                                | <0.30          |           | 0.30         | ug/L         | 26-SEP-19 |      |                                   |
| m+p-Xylenes                             | <0.40          |           | 0.40         | ug/L         | 26-SEP-19 |      |                                   |
| Xylenes (Total)                         | <0.50          |           | 0.50         | ug/L         | 26-SEP-19 | 72   |                                   |
| Surrogate: 4-Bromofluorobenzene         | 100.0          |           | 70-130       | %<br>%       | 26-SEP-19 |      |                                   |
| Surrogate: 1,4-Difluorobenzene          | 102.1          |           | 70-130       |              | 26-SEP-19 |      |                                   |

<sup>\*\*</sup> 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:



L2352720 CONTD....

Page 3 of 6 26-SEP-19 09-09 (MT)

| EF751900                                |        | IICAL     | GUID  | LLINL   | KEPUR     | \ I    | Page 3 of<br>26-SEP-19 09:09 |  |
|-----------------------------------------|--------|-----------|-------|---------|-----------|--------|------------------------------|--|
| Sample Details Grouping Analyte         | Dooult | Qualifier | D.L.  | Units   | A         |        |                              |  |
| Grouping Analyte                        | Result | Qualifier | D.L.  | I       | Analyzed  |        | Guideline Limits             |  |
| L2352720-2 MW107                        |        |           |       |         |           |        |                              |  |
| Sampled By: M.SHIRY on 24-SEP-19 @ 11:0 | q      |           |       |         |           | #1     |                              |  |
| Matrix: WATER                           |        |           |       |         |           | #1     |                              |  |
| Dissolved Metals                        |        |           |       |         |           |        |                              |  |
| Dissolved Metals Filtration Location    | FIELD  |           |       | No Unit | 24-SEP-19 |        |                              |  |
| Antimony (Sb)-Dissolved                 | <1.0   | DLHC      | 1.0   | ug/L    | 24-SEP-19 | 1.5    |                              |  |
| Arsenic (As)-Dissolved                  | <1.0   | DLHC      | 1.0   | ug/L    | 24-SEP-19 | 13     |                              |  |
| Barium (Ba)-Dissolved                   | 87.8   | DLHC      | 1.0   | ug/L    | 24-SEP-19 | 610    |                              |  |
| Beryllium (Be)-Dissolved                | <1.0   | DLHC      | 1.0   | ug/L    | 24-SEP-19 | **0.5  |                              |  |
| Boron (B)-Dissolved                     | <100   | DLHC      | 100   | ug/L    | 24-SEP-19 | 1700   |                              |  |
| Cadmium (Cd)-Dissolved                  | 3.13   | DLHC      | 0.050 | ug/L    | 24-SEP-19 | *0.5   |                              |  |
| Chromium (Cr)-Dissolved                 | <5.0   | DLHC      | 5.0   | ug/L    | 24-SEP-19 | 11     |                              |  |
| Cobalt (Co)-Dissolved                   | <1.0   | DLHC      | 1.0   | ug/L    | 24-SEP-19 | 3.8    |                              |  |
| Copper (Cu)-Dissolved                   | 2.2    | DLHC      | 2.0   | ug/L    | 24-SEP-19 | 5      |                              |  |
| Lead (Pb)-Dissolved                     | <0.50  | DLHC      | 0.50  | ug/L    | 24-SEP-19 | 1.9    |                              |  |
| Molybdenum (Mo)-Dissolved               | 0.90   | DLHC      | 0.50  | ug/L    | 24-SEP-19 | 23     |                              |  |
| Nickel (Ni)-Dissolved                   | <5.0   | DLHC      | 5.0   | ug/L    | 24-SEP-19 | 14     |                              |  |
| Selenium (Se)-Dissolved                 | 1.11   | DLHC      | 0.50  | ug/L    | 24-SEP-19 | 5      |                              |  |
| Silver (Ag)-Dissolved                   | <0.50  | DLHC      | 0.50  | ug/L    | 24-SEP-19 | **0.3  |                              |  |
| Sodium (Na)-Dissolved                   | 436000 | DLHC      | 500   | ug/L    | 24-SEP-19 | 490000 |                              |  |
| Thallium (TI)-Dissolved                 | <0.10  | DLHC      | 0.10  | ug/L    | 24-SEP-19 | 0.5    |                              |  |
| Uranium (U)-Dissolved                   | 0.63   | DLHC      | 0.10  | ug/L    | 24-SEP-19 | 8.9    |                              |  |
| Vanadium (V)-Dissolved                  | <5.0   | DLHC      | 5.0   | ug/L    | 24-SEP-19 | **3.9  |                              |  |
| Zinc (Zn)-Dissolved                     | 13     | DLHC      | 10    | ug/L    | 24-SEP-19 | 160    |                              |  |
| Volatile Organic Compounds              |        |           |       |         |           |        |                              |  |
| Acetone                                 | <30    |           | 30    | ug/L    | 26-SEP-19 | 2700   |                              |  |
| Benzene                                 | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| Bromodichloromethane                    | <2.0   |           | 2.0   | ug/L    | 26-SEP-19 | 2      |                              |  |
| Bromoform                               | <5.0   |           | 5.0   | ug/L    | 26-SEP-19 | 5      |                              |  |
| Bromomethane                            | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.89   |                              |  |
| Carbon tetrachloride                    | <0.20  |           | 0.20  | ug/L    | 26-SEP-19 | 0.2    |                              |  |
| Chlorobenzene                           | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| Dibromochloromethane                    | <2.0   |           | 2.0   | ug/L    | 26-SEP-19 | 2      |                              |  |
| Chloroform                              | 10.9   |           | 1.0   | ug/L    | 26-SEP-19 | *2     |                              |  |
| 1,2-Dibromoethane                       | <0.20  |           | 0.20  | ug/L    | 26-SEP-19 | 0.2    |                              |  |
| 1,2-Dichlorobenzene                     | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| 1,3-Dichlorobenzene                     | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| 1,4-Dichlorobenzene                     | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| Dichlorodifluoromethane                 | <2.0   |           | 2.0   | ug/L    | 26-SEP-19 | 590    |                              |  |
| 1,1-Dichloroethane                      | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| 1,2-Dichloroethane                      | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| 1,1-Dichloroethylene                    | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| cis-1,2-Dichloroethylene                | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 1.6    |                              |  |
| trans-1,2-Dichloroethylene              | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 1.6    |                              |  |
| Methylene Chloride                      | <5.0   |           | 5.0   | ug/L    | 26-SEP-19 | 5      |                              |  |
| 1,2-Dichloropropane                     | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| cis-1,3-Dichloropropene                 | <0.30  |           | 0.30  | ug/L    | 26-SEP-19 |        |                              |  |
| trans-1,3-Dichloropropene               | <0.30  |           | 0.30  | ug/L    | 26-SEP-19 |        |                              |  |
| 1,3-Dichloropropene (cis & trans)       | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |
| Ethylbenzene                            | <0.50  |           | 0.50  | ug/L    | 26-SEP-19 | 0.5    |                              |  |

<sup>\*\*</sup> 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:



L2352720 CONTD....

Page 4 of 6 26-SEP-19 09-09 (MT)

| CE751900                                 | HINALI       | IICAL     | GUID       | LLINE        | KEPUN                  | A I        | Page 4 of 6<br>26-SEP-19 09:09 (MT) |
|------------------------------------------|--------------|-----------|------------|--------------|------------------------|------------|-------------------------------------|
| Sample Details                           | Danult       | 0         | D.1        | l laita      | A b                    |            |                                     |
| Grouping Analyte                         | Result       | Qualifier | D.L.       | Units        | Analyzed               |            | Guideline Limits                    |
| L2352720-2 MW107                         |              |           |            |              |                        |            |                                     |
| Sampled By: M.SHIRY on 24-SEP-19 @ 11:00 | þ            |           |            |              |                        |            |                                     |
| Matrix: WATER                            |              |           |            |              |                        | #1         |                                     |
| Volatile Organic Compounds               |              |           |            |              |                        |            |                                     |
| n-Hexane                                 | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 5          |                                     |
| Methyl Ethyl Ketone                      | <20          |           | 20         | ug/L         | 26-SEP-19              | 400        |                                     |
| Methyl Isobutyl Ketone                   | <20          |           | 20         | ug/L         | 26-SEP-19              | 640        |                                     |
| MTBE                                     | <2.0         |           | 2.0        | ug/L         | 26-SEP-19              | 15         |                                     |
| Styrene                                  | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.5        |                                     |
| 1,1,1,2-Tetrachloroethane                | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 1.1        |                                     |
| 1,1,2,2-Tetrachloroethane                | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.5        |                                     |
| Tetrachloroethylene                      | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.5        |                                     |
| Toluene                                  | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.8        |                                     |
| 1,1,1-Trichloroethane                    | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.5        |                                     |
| 1,1,2-Trichloroethane                    | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.5        |                                     |
| Trichloroethylene                        | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.5        |                                     |
| Trichlorofluoromethane                   | <5.0         |           | 5.0        | ug/L         | 26-SEP-19              | 150        |                                     |
| Vinyl chloride                           | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.5        |                                     |
| o-Xylene                                 | <0.30        |           | 0.30       | ug/L         | 26-SEP-19              |            |                                     |
| m+p-Xylenes                              | <0.40        |           | 0.40       | ug/L         | 26-SEP-19              |            |                                     |
| Xylenes (Total)                          | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 72         |                                     |
| Surrogate: 4-Bromofluorobenzene          | 99.6         |           | 70-130     | %            | 26-SEP-19              |            |                                     |
| Surrogate: 1,4-Difluorobenzene           | 101.6        |           | 70-130     | %            | 26-SEP-19              |            |                                     |
| L2352720-3 TRIP BLANK                    |              |           |            |              |                        |            |                                     |
| Sampled By: M.SHIRY on 24-SEP-19         |              |           |            |              |                        |            |                                     |
| Matrix: WATER                            |              |           |            |              |                        | #1         |                                     |
| Valatila Ormania Campa ann da            |              |           |            |              |                        |            |                                     |
| Volatile Organic Compounds               |              |           |            | ,,           |                        |            |                                     |
| Acetone                                  | <30          |           | 30         | ug/L         | 26-SEP-19              | 2700       |                                     |
| Benzene                                  | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.5        |                                     |
| Bromodichloromethane                     | <2.0         |           | 2.0        | ug/L         | 26-SEP-19              | 2          |                                     |
| Bromoform                                | <5.0         |           | 5.0        | ug/L         | 26-SEP-19              | 5          |                                     |
| Bromomethane                             | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.89       |                                     |
| Carbon tetrachloride                     | <0.20        |           | 0.20       | ug/L         | 26-SEP-19              | 0.2        |                                     |
| Chlorobenzene                            | <0.50        |           | 0.50       | ug/L         | 26-SEP-19<br>26-SEP-19 | 0.5        |                                     |
| Dibromochloromethane Chloroform          | <2.0<br><1.0 |           | 2.0<br>1.0 | ug/L         | 26-SEP-19<br>26-SEP-19 | 2 2        |                                     |
| 1,2-Dibromoethane                        | <0.20        |           | 0.20       | ug/L         | 26-SEP-19<br>26-SEP-19 |            |                                     |
| 1,2-Dichlorobenzene                      | <0.20        |           | 0.20       | ug/L<br>ug/L | 26-SEP-19<br>26-SEP-19 | 0.2<br>0.5 |                                     |
| 1,3-Dichlorobenzene                      | <0.50        |           | 0.50       | ug/L<br>ug/L | 26-SEP-19              | 0.5        |                                     |
| 1,4-Dichlorobenzene                      | <0.50        |           | 0.50       |              | 26-SEP-19              | 0.5        |                                     |
| Dichlorodifluoromethane                  | <2.0         |           | 2.0        | ug/L<br>ug/L | 26-SEP-19<br>26-SEP-19 | 590        |                                     |
| 1,1-Dichloroethane                       | <0.50        |           | 0.50       | ug/L<br>ug/L | 26-SEP-19              | 0.5        |                                     |
| 1,2-Dichloroethane                       | <0.50        |           | 0.50       | ug/L<br>ug/L | 26-SEP-19              | 0.5        |                                     |
| 1,1-Dichloroethylene                     | <0.50        |           | 0.50       | ug/L<br>ug/L | 26-SEP-19              | 0.5        |                                     |
| cis-1,2-Dichloroethylene                 | <0.50        |           | 0.50       | ug/L<br>ug/L | 26-SEP-19              | 1.6        |                                     |
| trans-1,2-Dichloroethylene               | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 1.6        |                                     |
| Methylene Chloride                       | <5.0         |           | 5.0        | ug/L         | 26-SEP-19              | 5          |                                     |
| 1,2-Dichloropropane                      | <0.50        |           | 0.50       | ug/L         | 26-SEP-19              | 0.5        |                                     |
| cis-1,3-Dichloropropene                  | <0.30        |           | 0.30       | ug/L         | 26-SEP-19              | 0.0        |                                     |
| 3.5 1,0 5101110100110                    | 10.00        |           | 0.00       | ~9/ <b>-</b> | 120 021 10             |            |                                     |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



L2352720 CONTD....

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| E751900                           | ANALI  | IICAL     | טוטט   | CLINE | KEPUR     | X I | Page 26-SEP-19   | 5 of 6<br>09:09 (MT |
|-----------------------------------|--------|-----------|--------|-------|-----------|-----|------------------|---------------------|
| Sample Details Grouping Analyte   | Result | Qualifier | D.L.   | Units | Analyzed  |     | Guideline Limits |                     |
| L2352720-3 TRIP BLANK             |        |           |        |       |           |     |                  |                     |
| Sampled By: M.SHIRY on 24-SEP-19  |        |           |        |       |           |     |                  |                     |
| Matrix: WATER                     |        |           |        |       |           | #1  |                  | 1                   |
| Volatile Organic Compounds        |        |           |        |       |           |     |                  |                     |
| trans-1,3-Dichloropropene         | <0.30  |           | 0.30   | ug/L  | 26-SEP-19 |     |                  |                     |
| 1,3-Dichloropropene (cis & trans) | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.5 |                  |                     |
| Ethylbenzene                      | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.5 |                  |                     |
| n-Hexane                          | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 5   |                  |                     |
| Methyl Ethyl Ketone               | <20    |           | 20     | ug/L  | 26-SEP-19 | 400 |                  |                     |
| Methyl Isobutyl Ketone            | <20    |           | 20     | ug/L  | 26-SEP-19 | 640 |                  |                     |
| MTBE                              | <2.0   |           | 2.0    | ug/L  | 26-SEP-19 | 15  |                  |                     |
| Styrene                           | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.5 |                  |                     |
| 1,1,1,2-Tetrachloroethane         | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 1.1 |                  |                     |
| 1,1,2,2-Tetrachloroethane         | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.5 |                  |                     |
| Tetrachloroethylene               | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.5 |                  |                     |
| Toluene                           | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.8 |                  |                     |
| 1,1,1-Trichloroethane             | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.5 |                  |                     |
| 1,1,2-Trichloroethane             | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.5 |                  |                     |
| Trichloroethylene                 | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.5 |                  |                     |
| Trichlorofluoromethane            | <5.0   |           | 5.0    | ug/L  | 26-SEP-19 | 150 |                  |                     |
| Vinyl chloride                    | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 0.5 |                  |                     |
| o-Xylene                          | <0.30  |           | 0.30   | ug/L  | 26-SEP-19 |     |                  |                     |
| m+p-Xylenes                       | <0.40  |           | 0.40   | ug/L  | 26-SEP-19 |     |                  |                     |
| Xylenes (Total)                   | <0.50  |           | 0.50   | ug/L  | 26-SEP-19 | 72  |                  |                     |
| Surrogate: 4-Bromofluorobenzene   | 100.5  |           | 70-130 | %     | 26-SEP-19 |     |                  |                     |
| Surrogate: 1,4-Difluorobenzene    | 101.9  |           | 70-130 | %     | 26-SEP-19 |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        |           |        |       |           |     |                  |                     |
|                                   |        | 1         |        |       |           |     |                  |                     |

<sup>\*\*</sup> 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:

Sample Parameter Qualifier key listed:

 Qualifier
 Description

 DLHC
 Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

 Methods Listed (if applicable):

 ALS Test Code
 Matrix
 Test Description
 Method Reference\*\*\*

Diss. Metals in Water by ICPMS EPA 200.8

The metal constituents of a non-acidified sample that pass through a membrane filter prior to ICP/MS analysis.

(ug/L)

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).

MFT-D-UG/L-MS-WT

 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), 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-

Water

Water

Sum of Xylene Isomer

CALCULATION

VT Concentrations

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:

17-819317

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,<br>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.



Workorder: L2352720 Report Date: 26-SEP-19 Page 1 of 6

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test Matrix               | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------|------------|--------|-----------|-------|-----|--------|-----------|
| MET-D-UG/L-MS-WT Water    |            |        |           |       |     |        |           |
| Batch R4838214            |            |        |           |       |     |        |           |
| WG3171623-4 DUP           | WG3171623- |        |           |       |     |        |           |
| Antimony (Sb)-Dissolved   | <1.0       | <1.0   | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Arsenic (As)-Dissolved    | <1.0       | <1.0   | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Barium (Ba)-Dissolved     | 87.8       | 91.0   |           | ug/L  | 3.5 | 20     | 24-SEP-19 |
| Beryllium (Be)-Dissolved  | <1.0       | <1.0   | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Boron (B)-Dissolved       | <100       | <100   | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Cadmium (Cd)-Dissolved    | 3.13       | 3.48   |           | ug/L  | 10  | 20     | 24-SEP-19 |
| Chromium (Cr)-Dissolved   | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Cobalt (Co)-Dissolved     | <1.0       | <1.0   | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Copper (Cu)-Dissolved     | 2.2        | 2.3    |           | ug/L  | 2.3 | 20     | 24-SEP-19 |
| Lead (Pb)-Dissolved       | <0.50      | < 0.50 | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Molybdenum (Mo)-Dissolved | 0.90       | 0.96   |           | ug/L  | 7.0 | 20     | 24-SEP-19 |
| Nickel (Ni)-Dissolved     | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Selenium (Se)-Dissolved   | 1.11       | 1.11   |           | ug/L  | 0.2 | 20     | 24-SEP-19 |
| Silver (Ag)-Dissolved     | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Sodium (Na)-Dissolved     | 436000     | 449000 |           | ug/L  | 2.9 | 20     | 24-SEP-19 |
| Thallium (TI)-Dissolved   | <0.10      | <0.10  | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Uranium (U)-Dissolved     | 0.63       | 0.64   |           | ug/L  | 1.9 | 20     | 24-SEP-19 |
| Vanadium (V)-Dissolved    | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A | 20     | 24-SEP-19 |
| Zinc (Zn)-Dissolved       | 13         | 13     |           | ug/L  | 2.2 | 20     | 24-SEP-19 |
| WG3171623-2 LCS           |            |        |           |       |     |        |           |
| Antimony (Sb)-Dissolved   |            | 99.3   |           | %     |     | 80-120 | 24-SEP-19 |
| Arsenic (As)-Dissolved    |            | 95.4   |           | %     |     | 80-120 | 24-SEP-19 |
| Barium (Ba)-Dissolved     |            | 97.2   |           | %     |     | 80-120 | 24-SEP-19 |
| Beryllium (Be)-Dissolved  |            | 93.6   |           | %     |     | 80-120 | 24-SEP-19 |
| Boron (B)-Dissolved       |            | 96.9   |           | %     |     | 80-120 | 24-SEP-19 |
| Cadmium (Cd)-Dissolved    |            | 97.3   |           | %     |     | 80-120 | 24-SEP-19 |
| Chromium (Cr)-Dissolved   |            | 98.4   |           | %     |     | 80-120 | 24-SEP-19 |
| Cobalt (Co)-Dissolved     |            | 93.8   |           | %     |     | 80-120 | 24-SEP-19 |
| Copper (Cu)-Dissolved     |            | 95.8   |           | %     |     | 80-120 | 24-SEP-19 |
| Lead (Pb)-Dissolved       |            | 100.8  |           | %     |     | 80-120 | 24-SEP-19 |
| Molybdenum (Mo)-Dissolved |            | 98.5   |           | %     |     | 80-120 | 24-SEP-19 |
| Nickel (Ni)-Dissolved     |            | 95.9   |           | %     |     | 80-120 | 24-SEP-19 |
| Selenium (Se)-Dissolved   |            | 99.9   |           | %     |     | 80-120 | 24-SEP-19 |



Workorder: L2352720 Report Date: 26-SEP-19 Page 2 of 6

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                     | Matrix   | Reference   | Result      | Qualifier | Units | RPD | Limit   | Analyzed               |
|------------------------------------------|----------|-------------|-------------|-----------|-------|-----|---------|------------------------|
| MET-D-UG/L-MS-WT                         | Water    |             |             |           |       |     |         |                        |
| Batch R4838214                           | ı        |             |             |           |       |     |         |                        |
| WG3171623-2 LCS                          |          |             | 400.0       |           | 0/    |     |         |                        |
| Silver (Ag)-Dissolved                    |          |             | 100.3       |           | %     |     | 80-120  | 24-SEP-19              |
| Sodium (Na)-Dissolved                    |          |             | 101.6       |           | %     |     | 80-120  | 24-SEP-19              |
| Thallium (TI)-Dissolved                  |          |             | 100.1       |           | %     |     | 80-120  | 24-SEP-19              |
| Uranium (U)-Dissolved                    |          |             | 99.2        |           | %     |     | 80-120  | 24-SEP-19              |
| Vanadium (V)-Dissolve                    | d        |             | 98.7        |           | %     |     | 80-120  | 24-SEP-19              |
| Zinc (Zn)-Dissolved                      |          |             | 94.4        |           | %     |     | 80-120  | 24-SEP-19              |
| WG3171623-1 MB<br>Antimony (Sb)-Dissolve | -d       |             | <0.10       |           | ug/L  |     | 0.1     | 24-SEP-19              |
| Arsenic (As)-Dissolved                   |          |             | <0.10       |           | ug/L  |     | 0.1     | 24-SEP-19              |
| Barium (Ba)-Dissolved                    |          |             | <0.10       |           | ug/L  |     | 0.1     | 24-SEP-19<br>24-SEP-19 |
| Beryllium (Be)-Dissolved                 | ed.      |             | <0.10       |           | ug/L  |     | 0.1     | 24-SEP-19<br>24-SEP-19 |
| Boron (B)-Dissolved                      | ,u       |             | <10         |           | ug/L  |     | 10      | 24-SEP-19              |
| Cadmium (Cd)-Dissolv                     | ed       |             | <0.0050     |           | ug/L  |     | 0.005   | 24-SEP-19              |
| Chromium (Cr)-Dissolv                    |          |             | <0.50       |           | ug/L  |     | 0.5     | 24-SEP-19              |
| Cobalt (Co)-Dissolved                    | cu       |             | <0.10       |           | ug/L  |     | 0.1     | 24-SEP-19              |
| Copper (Cu)-Dissolved                    |          |             | <0.20       |           | ug/L  |     | 0.2     | 24-SEP-19              |
| Lead (Pb)-Dissolved                      |          |             | <0.050      |           | ug/L  |     | 0.05    | 24-SEP-19              |
| Molybdenum (Mo)-Diss                     | colved   |             | <0.050      |           | ug/L  |     | 0.05    | 24-SEP-19              |
| Nickel (Ni)-Dissolved                    | Solved   |             | <0.50       |           | ug/L  |     | 0.5     | 24-SEP-19              |
| Selenium (Se)-Dissolve                   | 2d       |             | <0.050      |           | ug/L  |     | 0.05    |                        |
| Silver (Ag)-Dissolved                    | <b>.</b> |             | <0.050      |           | ug/L  |     | 0.05    | 24-SEP-19<br>24-SEP-19 |
| Sodium (Na)-Dissolved                    | ı        |             | <50         |           | ug/L  |     | 50      |                        |
| Thallium (TI)-Dissolved                  |          |             | <0.010      |           | ug/L  |     | 0.01    | 24-SEP-19<br>24-SEP-19 |
| Uranium (U)-Dissolved                    |          |             | <0.010      |           | ug/L  |     | 0.01    | 24-SEP-19<br>24-SEP-19 |
| Vanadium (V)-Dissolved                   |          |             | <0.50       |           | ug/L  |     | 0.5     |                        |
| Zinc (Zn)-Dissolved                      | ·u       |             | <1.0        |           | ug/L  |     | 1       | 24-SEP-19              |
|                                          |          | WC2474602 2 | <b>\1.0</b> |           | ug/L  |     | 1       | 24-SEP-19              |
| WG3171623-5 MS Antimony (Sb)-Dissolve    | ed       | WG3171623-3 | 94.5        |           | %     |     | 70-130  | 24-SEP-19              |
| Arsenic (As)-Dissolved                   |          |             | 94.1        |           | %     |     | 70-130  | 24-SEP-19              |
| Barium (Ba)-Dissolved                    |          |             | N/A         | MS-B      | %     |     | -       | 24-SEP-19              |
| Beryllium (Be)-Dissolve                  | ed       |             | 89.9        |           | %     |     | 70-130  | 24-SEP-19              |
| Chromium (Cr)-Dissolv                    | red      |             | 79.0        |           | %     |     | 70-130  | 24-SEP-19              |
| Cobalt (Co)-Dissolved                    |          |             | 89.7        |           | %     |     | 70-130  | 24-SEP-19              |
| Copper (Cu)-Dissolved                    |          |             | 73.6        |           | %     |     | 70-130  | 24-SEP-19              |
| (11)                                     |          |             |             |           |       |     | . 0 .00 | _ 1 0_ 10              |



Workorder: L2352720 Report Date: 26-SEP-19 Page 3 of 6

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| MET-D-UG/L-MS-WT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Test                   | Matrix  | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------|------------|--------|-----------|-------|-----|--------|-----------|
| Mogly Age   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Part   Pa   | MET-D-UG/L-MS-WT       | Water   |            |        |           |       |     |        |           |
| Lead (Pb)-Dissolved         94.5         %         70-130         24-SEP-19           Molybdenum (Mo)-Dissolved         97.1         %         70-130         24-SEP-19           Nickal (Ni-Dissolved         97.1         %         70-130         24-SEP-19           Selenium (Se)-Dissolved         95.6         %         70-130         24-SEP-19           Silver (Ag)-Dissolved         93.2         %         70-130         24-SEP-19           Thallium (Tl)-Dissolved         91.7         %         70-130         24-SEP-19           Uranium (U)-Dissolved         91.7         %         70-130         24-SEP-19           Uranium (U)-Dissolved         96.5         %         70-130         24-SEP-19           UCC-511-HS-WT         Water         Water         SEX         X         70-130         24-SEP-19           WOS17-HS-WT         Water         Water         SEX         X         70-130         26-SEP-19           WOS17-HS-WT         Water         Water         X         X         70-130         26-SEP-19           WOC-511-HS-WT         Water         Water         X         X         70-130         26-SEP-19           WOC-511-HS-WT         Water         Water         X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        | 14      |            |        |           |       |     |        |           |
| Molybdenum (Mol-Dissolved   83.2   %   70.130   24-SEP-19     Nickel (Kil)-Dissolved   87.1   %   70.130   24-SEP-19     Sellenium (Se)-Dissolved   95.6   %   70.130   24-SEP-19     Sellenium (Se)-Dissolved   93.2   %   70.130   24-SEP-19     Sodium (Na)-Dissolved   NIA   MS-B   %   70.130   24-SEP-19     Thallium (TI)-Dissolved   91.7   %   70.130   24-SEP-19     Uranium (U)-Dissolved   NIA   MS-B   %   70.130   24-SEP-19     Uranium (U)-Dissolved   NIA   MS-B   %   70.130   24-SEP-19     Uranium (U)-Dissolved   NIA   MS-B   %   70.130   24-SEP-19     Uranium (U)-Dissolved   NIA   MS-B   %   70.130   24-SEP-19     Uranium (U)-Dissolved   NIA   MS-B   %   70.130   24-SEP-19     Uranium (U)-Dissolved   NIA   MS-B   %   70.130   26-SEP-19     Uranium (U)-Dissolved   NIA   NIA   MS-B   %   70.130   26-SEP-19     Uranium (U)-Dissolved   NIA   NIA   MS-B   %   70.130   26-SEP-19     Uranium (U)-Dissolved   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   NIA   |                        |         | WG3171623- |        |           | %     |     | 70-130 | 24 SED 10 |
| Nickel (Ni)-Dissolved 87.1 % 70-130 24-SEP-19 Selenium (Se)-Dissolved 95.6 % 70-130 24-SEP-19 Silver (Ag)-Dissolved 93.2 % 70-130 24-SEP-19 Silver (Ag)-Dissolved 93.2 % 70-130 24-SEP-19 Slover (Ag)-Dissolved N/A MS-B % 70-130 24-SEP-19 Thallium (Ti)-Dissolved 91.7 % 70-130 24-SEP-19 Uranium (U)-Dissolved N/A MS-B % 70-130 24-SEP-19 Uranium (U)-Dissolved N/A MS-B % 70-130 24-SEP-19 VOC-511-HS-VT Water Batch R4842910 WG3173061-1 LCS 1,1,1,2-Tetrachloroethane 93.9 % 70-130 26-SEP-19 1,1,1,2-Tetrachloroethane 99.9 % 70-130 26-SEP-19 1,1,1,2-Tirchloroethane 99.9 % 70-130 26-SEP-19 1,1,1,1-Tichloroethane 88.4 % 70-130 26-SEP-19 1,1,1-Dichloroethane 88.4 % 70-130 26-SEP-19 1,1,1-Dichloroethane 88.4 % 70-130 26-SEP-19 1,1,1-Dichloroethane 84.8 % 70-130 26-SEP-19 1,1,1-Dichloroethane 84.8 % 70-130 26-SEP-19 1,1,2-Dichloroethane 84.8 % 70-130 26-SEP-19 1,2-Dichloroethane 84.8 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-130 26-SEP-19 1,3-Dichloroethane 96.4 % 70-1 |                        | ssolved |            |        |           |       |     |        |           |
| Selenium (Se)-Dissolved         95.6         %         70.130         24-SEP-19           Silver (Ag)-Dissolved         93.2         %         70-130         24-SEP-19           Sodium (Na)-Dissolved         N/A         MS-B         %         70-130         24-SEP-19           Thallium (TT)-Dissolved         91.7         %         70-130         24-SEP-19           Uranium (U)-Dissolved         N/A         MS-B         %         70-130         24-SEP-19           Vanadium (V)-Dissolved         96.5         %         70-130         24-SEP-19           VOC-511-HS-WT         Water         Water         Water         Water         Water         Water           Batch         R4842910         Water         Water         Water         Water         Yater         Yater         Selection         Yater         Yater </td <td></td> <td>300.100</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | 300.100 |            |        |           |       |     |        |           |
| Silver (Ag)-Dissolved         93.2         %         70.130         24-SEP-19           Sodium (Na)-Dissolved         N/A         MS-B         %         -         24-SEP-19           Thallium (TI)-Dissolved         91.7         %         70-130         24-SEP-19           Uranium (U)-Dissolved         N/A         MS-B         %         70-130         24-SEP-19           VOC-511-HS-WT         Water         Wash         %         70-130         24-SEP-19           WG3173061-1         LCS         LCS         TO-130         26-SEP-19           1,1,1,2-Eritarbeloroethane         93.9         %         70-130         26-SEP-19           1,1,1-Eritarbeloroethane         99.9         %         70-130         26-SEP-19           1,1,1-Eritoloroethane         82.4         %         70-130         26-SEP-19           1,1-Dichloroethane         82.9         %         70-130         26-SEP-19           1,1-Dichloroethane         82.9         %         70-130         26-SEP-19           1,1-Dichloroethane         84.8         %         70-130         26-SEP-19           1,2-Dichloroethane         84.8         %         70-130         26-SEP-19           1,2-Dichloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ,                      | ved     |            |        |           |       |     |        |           |
| Sodium (Na)-Dissolved         N/A         MS-B         %         -         24-SEP-19           Thallium (TI)-Dissolved         91.7         %         70-130         24-SEP-19           Uranium (U)-Dissolved         96.5         %         70-130         24-SEP-19           Voradium (V)-Dissolved         96.5         %         70-130         24-SEP-19           VOC-511-HS-WT         Water           Batch R4842910           WG3173061-1         LCS         1.1.1,2-Tetrachloroethane         93.9         %         70-130         26-SEP-19           1,1,2-Tetrachloroethane         82.4         %         70-130         26-SEP-19           1,1,1-Tichloroethane         88.4         %         70-130         26-SEP-19           1,1-Dichloroethane         82.9         %         70-130         26-SEP-19           1,1-Dichloroethane         82.9         %         70-130         26-SEP-19           1,1-Dichloroethane         84.8         %         70-130         26-SEP-19           1,2-Dichloroethane         84.8         %         70-130         26-SEP-19           1,2-Dichloroethane         86.1         %         70-130         26-SEP-19           1,2-Dichloroetha                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |         |            |        |           |       |     |        |           |
| Thallium (TI)-Dissolved         91.7         %         70-130         24-SEP-19           Uranium (U)-Dissolved         N/A         MS-B         %         -         24-SEP-19           Vanadium (V)-Dissolved         96.5         %         70-130         24-SEP-19           VOC-511-HS-WT         Water         WEST-19         WEST-19         WEST-19         WEST-19           Batch         R4842910         R4842910         WEST-19         WEST-19         WEST-19         WEST-19         26-SEP-19         1.1.1-Z-Tetrachloroethane         93.9         %         70-130         26-SEP-19         1.1.1-Trichloroethane         99.9         %         70-130         26-SEP-19         1.1.1-Trichloroethane         88.4         %         70-130         26-SEP-19         1.1.1-Trichloroethane         88.4         %         70-130         26-SEP-19         1.1.1-Dichloroethane         88.4         %         70-130         26-SEP-19         1.1.1-Dichloroethane         88.4         %         70-130         26-SEP-19         1.1.1-Dichloroethane         84.8         %         70-130         26-SEP-19         1.1.2-Dichloroethane         84.8         %         70-130         26-SEP-19         1.2-Dichloroethane         86.1         %         70-130         26-SEP-19         1.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | ed      |            |        | MS-B      |       |     | -      |           |
| Uranium (U)-Dissolved         N/A         MS-B         %         -         24-SEP-19           Vonadium (V)-Dissolved         96.5         %         70-130         24-SEP-19           VOC-511-HS-WT         Water           Batch         R4842910         R4842910         Service of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of the color of th                                                                                                                                                                                                                                                   |                        |         |            |        |           |       |     | 70-130 |           |
| Vanadium (V)-Dissolved         96.5         %         70-130         24-SEP-19           VOC-511-HS-WT         Water         WG47873061-1         LCS         Control of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the part of the                                                                                                                           |                        |         |            | N/A    | MS-B      |       |     | -      |           |
| Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |         |            |        |           |       |     | 70-130 |           |
| Batch R4842910           WG3173061-1 LCS         1.1.1,2-Tetrachloroethane         93.9         %         70-130         26-SEP-19           1.1.1,2-Tetrachloroethane         82.4         %         70-130         26-SEP-19           1.1,1-Trichloroethane         99.9         %         70-130         26-SEP-19           1.1,1-Trichloroethane         88.4         %         70-130         26-SEP-19           1.1-Dichloroethane         82.9         %         70-130         26-SEP-19           1,1-Dichloroethylene         97.9         %         70-130         26-SEP-19           1,2-Dibromoethane         84.8         %         70-130         26-SEP-19           1,2-Dichlorobenzene         94.3         %         70-130         26-SEP-19           1,2-Dichloropropane         93.5         %         70-130         26-SEP-19           1,3-Dichlorobenzene         96.4         %         70-130         26-SEP-19           1,4-Dichlorobenzene         95.0         %         70-130         26-SEP-19           Acetone         85.5         %         60-140         26-SEP-19           Benzene         98.1         %         70-130         26-SEP-19           Bromodichloro                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |         |            |        |           |       |     |        |           |
| WG3173061-1 LCS         1,1,1,2-Tetrachloroethane         93.9         %         70-130         26-SEP-19           1,1,1,2-Tetrachloroethane         82.4         %         70-130         26-SEP-19           1,1,1-Trichloroethane         99.9         %         70-130         26-SEP-19           1,1,1-Trichloroethane         88.4         %         70-130         26-SEP-19           1,1-Dichloroethane         82.9         %         70-130         26-SEP-19           1,1-Dichloroethylene         97.9         %         70-130         26-SEP-19           1,2-Dichlorobenzene         94.3         %         70-130         26-SEP-19           1,2-Dichlorobenzene         94.3         %         70-130         26-SEP-19           1,2-Dichloroptopane         93.5         %         70-130         26-SEP-19           1,2-Dichlorobenzene         96.4         %         70-130         26-SEP-19           1,3-Dichlorobenzene         96.4         %         70-130         26-SEP-19           1,4-Dichlorobenzene         95.0         %         70-130         26-SEP-19           Acetone         85.5         %         60-140         26-SEP-19           Bromodichloromethane         91.1         %<                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |         |            |        |           |       |     |        |           |
| 1,1,2,2-Tetrachloroethane       82.4       %       70-130       26-SEP-19         1,1,1-Trichloroethane       99.9       %       70-130       26-SEP-19         1,1,2-Trichloroethane       88.4       %       70-130       26-SEP-19         1,1-Dichloroethane       82.9       %       70-130       26-SEP-19         1,1-Dichloroethylene       97.9       %       70-130       26-SEP-19         1,2-Dichloroethane       84.8       %       70-130       26-SEP-19         1,2-Dichloroethane       84.8       %       70-130       26-SEP-19         1,2-Dichloroethane       86.1       %       70-130       26-SEP-19         1,2-Dichloropapane       93.5       %       70-130       26-SEP-19         1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |         |            |        |           |       |     |        |           |
| 1,1,1-Trichloroethane       99.9       %       70-130       26-SEP-19         1,1,2-Trichloroethane       88.4       %       70-130       26-SEP-19         1,1-Dichloroethane       82.9       %       70-130       26-SEP-19         1,1-Dichloroethylene       97.9       %       70-130       26-SEP-19         1,2-Dibromoethane       84.8       %       70-130       26-SEP-19         1,2-Dichlorobenzene       94.3       %       70-130       26-SEP-19         1,2-Dichloroethane       86.1       %       70-130       26-SEP-19         1,2-Dichloropropane       93.5       %       70-130       26-SEP-19         1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19 <t< td=""><td>1,1,1,2-Tetrachloroeth</td><td>nane</td><td></td><td>93.9</td><td></td><td>%</td><td></td><td>70-130</td><td>26-SEP-19</td></t<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,1,1,2-Tetrachloroeth | nane    |            | 93.9   |           | %     |     | 70-130 | 26-SEP-19 |
| 1,1,2-Trichloroethane       88.4       %       70-130       26-SEP-19         1,1-Dichloroethane       82.9       %       70-130       26-SEP-19         1,1-Dichloroethylene       97.9       %       70-130       26-SEP-19         1,2-Dichloroethane       84.8       %       70-130       26-SEP-19         1,2-Dichlorobenzene       94.3       %       70-130       26-SEP-19         1,2-Dichloroethane       86.1       %       70-130       26-SEP-19         1,2-Dichloropropane       93.5       %       70-130       26-SEP-19         1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1,1,2,2-Tetrachloroeth | nane    |            | 82.4   |           | %     |     | 70-130 | 26-SEP-19 |
| 1,1-Dichloroethane       82.9       %       70-130       26-SEP-19         1,1-Dichloroethylene       97.9       %       70-130       26-SEP-19         1,2-Dibromoethane       84.8       %       70-130       26-SEP-19         1,2-Dichlorobenzene       94.3       %       70-130       26-SEP-19         1,2-Dichloroethane       86.1       %       70-130       26-SEP-19         1,2-Dichloroppane       93.5       %       70-130       26-SEP-19         1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromomethane       99.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1,1,1-Trichloroethane  |         |            | 99.9   |           | %     |     | 70-130 | 26-SEP-19 |
| 1,1-Dichloroethylene       97.9       %       70-130       26-SEP-19         1,2-Dibromoethane       84.8       %       70-130       26-SEP-19         1,2-Dichlorobenzene       94.3       %       70-130       26-SEP-19         1,2-Dichloroethane       86.1       %       70-130       26-SEP-19         1,2-Dichloropopane       93.5       %       70-130       26-SEP-19         1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         Cis-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1,1,2-Trichloroethane  |         |            | 88.4   |           | %     |     | 70-130 | 26-SEP-19 |
| 1,2-Dibromoethane       84.8       %       70-130       26-SEP-19         1,2-Dichlorobenzene       94.3       %       70-130       26-SEP-19         1,2-Dichloropethane       86.1       %       70-130       26-SEP-19         1,2-Dichloropropane       93.5       %       70-130       26-SEP-19         1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         Cis-1,2-Di                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1,1-Dichloroethane     |         |            | 82.9   |           | %     |     | 70-130 | 26-SEP-19 |
| 1,2-Dichlorobenzene       94.3       %       70-130       26-SEP-19         1,2-Dichloroethane       86.1       %       70-130       26-SEP-19         1,2-Dichloropropane       93.5       %       70-130       26-SEP-19         1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1,1-Dichloroethylene   |         |            | 97.9   |           | %     |     | 70-130 | 26-SEP-19 |
| 1,2-Dichloroethane       86.1       %       70-130       26-SEP-19         1,2-Dichloropropane       93.5       %       70-130       26-SEP-19         1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,2-Dibromoethane      |         |            | 84.8   |           | %     |     | 70-130 | 26-SEP-19 |
| 1,2-Dichloropropane       93.5       %       70-130       26-SEP-19         1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,2-Dichlorobenzene    |         |            | 94.3   |           | %     |     | 70-130 | 26-SEP-19 |
| 1,3-Dichlorobenzene       96.4       %       70-130       26-SEP-19         1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1,2-Dichloroethane     |         |            | 86.1   |           | %     |     | 70-130 | 26-SEP-19 |
| 1,4-Dichlorobenzene       95.0       %       70-130       26-SEP-19         Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1,2-Dichloropropane    |         |            | 93.5   |           | %     |     | 70-130 | 26-SEP-19 |
| Acetone       85.5       %       60-140       26-SEP-19         Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,3-Dichlorobenzene    |         |            | 96.4   |           | %     |     | 70-130 | 26-SEP-19 |
| Benzene       98.1       %       70-130       26-SEP-19         Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1,4-Dichlorobenzene    |         |            | 95.0   |           | %     |     | 70-130 | 26-SEP-19 |
| Bromodichloromethane       91.1       %       70-130       26-SEP-19         Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Acetone                |         |            | 85.5   |           | %     |     | 60-140 | 26-SEP-19 |
| Bromoform       84.0       %       70-130       26-SEP-19         Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Benzene                |         |            | 98.1   |           | %     |     | 70-130 | 26-SEP-19 |
| Bromomethane       89.2       %       60-140       26-SEP-19         Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Bromodichloromethar    | ne      |            | 91.1   |           | %     |     | 70-130 | 26-SEP-19 |
| Carbon tetrachloride       94.7       %       70-130       26-SEP-19         Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Bromoform              |         |            | 84.0   |           | %     |     | 70-130 | 26-SEP-19 |
| Chlorobenzene       94.8       %       70-130       26-SEP-19         Chloroform       95.4       %       70-130       26-SEP-19         cis-1,2-Dichloroethylene       92.3       %       70-130       26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Bromomethane           |         |            | 89.2   |           | %     |     | 60-140 | 26-SEP-19 |
| Chloroform         95.4         %         70-130         26-SEP-19           cis-1,2-Dichloroethylene         92.3         %         70-130         26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Carbon tetrachloride   |         |            | 94.7   |           | %     |     | 70-130 | 26-SEP-19 |
| cis-1,2-Dichloroethylene 92.3 % 70-130 26-SEP-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Chlorobenzene          |         |            | 94.8   |           | %     |     | 70-130 | 26-SEP-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Chloroform             |         |            | 95.4   |           | %     |     | 70-130 | 26-SEP-19 |
| cis-1,3-Dichloropropene 88.0 % 70-130                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | cis-1,2-Dichloroethyle | ene     |            | 92.3   |           | %     |     | 70-130 | 26-SEP-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | cis-1,3-Dichloroprope  | ne      |            | 88.0   |           | %     |     | 70-130 |           |



Workorder: L2352720 Report Date: 26-SEP-19 Page 4 of 6

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                         | Matrix | Reference | Result | Qualifier | Units       | RPD | Limit  | Analyzed  |
|----------------------------------------------|--------|-----------|--------|-----------|-------------|-----|--------|-----------|
| VOC-511-HS-WT                                | Water  |           |        |           |             |     |        |           |
| Batch R4842910                               |        |           |        |           |             |     |        |           |
| WG3173061-1 LCS                              |        |           | 00.0   |           | 0/          |     | 70.400 |           |
| cis-1,3-Dichloropropene Dibromochloromethane |        |           | 88.0   |           | %           |     | 70-130 | 26-SEP-19 |
| Dichlorodifluoromethane                      |        |           | 87.7   |           | %           |     | 70-130 | 26-SEP-19 |
|                                              |        |           | 125.3  |           | %           |     | 50-140 | 26-SEP-19 |
| Ethylbenzene                                 |        |           | 96.6   |           | %           |     | 70-130 | 26-SEP-19 |
| n-Hexane                                     |        |           | 92.5   |           | %           |     | 70-130 | 26-SEP-19 |
| m+p-Xylenes                                  |        |           | 92.1   |           | %           |     | 70-130 | 26-SEP-19 |
| Methyl Ethyl Ketone                          |        |           | 74.3   |           | %           |     | 60-140 | 26-SEP-19 |
| Methyl Isobutyl Ketone                       |        |           | 72.7   |           | %           |     | 60-140 | 26-SEP-19 |
| Methylene Chloride                           |        |           | 87.0   |           | %           |     | 70-130 | 26-SEP-19 |
| MTBE                                         |        |           | 97.3   |           | %           |     | 70-130 | 26-SEP-19 |
| o-Xylene                                     |        |           | 90.5   |           | %           |     | 70-130 | 26-SEP-19 |
| Styrene                                      |        |           | 88.7   |           | %           |     | 70-130 | 26-SEP-19 |
| Tetrachloroethylene                          |        |           | 103.3  |           | %           |     | 70-130 | 26-SEP-19 |
| Toluene                                      |        |           | 99.5   |           | %           |     | 70-130 | 26-SEP-19 |
| trans-1,2-Dichloroethyler                    |        |           | 93.6   |           | %           |     | 70-130 | 26-SEP-19 |
| trans-1,3-Dichloropropen                     | ne     |           | 87.6   |           | %           |     | 70-130 | 26-SEP-19 |
| Trichloroethylene                            |        |           | 98.3   |           | %           |     | 70-130 | 26-SEP-19 |
| Trichlorofluoromethane                       |        |           | 104.7  |           | %           |     | 60-140 | 26-SEP-19 |
| Vinyl chloride                               |        |           | 118.2  |           | %           |     | 60-140 | 26-SEP-19 |
| WG3173061-2 MB<br>1,1,1,2-Tetrachloroethan   | e      |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,1,2,2-Tetrachloroethan                     | е      |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,1,1-Trichloroethane                        |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,1,2-Trichloroethane                        |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,1-Dichloroethane                           |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,1-Dichloroethylene                         |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,2-Dibromoethane                            |        |           | <0.20  |           | ug/L        |     | 0.2    | 26-SEP-19 |
| 1,2-Dichlorobenzene                          |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,2-Dichloroethane                           |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,2-Dichloropropane                          |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,3-Dichlorobenzene                          |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| 1,4-Dichlorobenzene                          |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
| Acetone                                      |        |           | <30    |           | ug/L        |     | 30     | 26-SEP-19 |
| Benzene                                      |        |           | <0.50  |           | ug/L        |     | 0.5    | 26-SEP-19 |
|                                              |        |           |        |           | <del></del> |     |        | 20 021 10 |



Workorder: L2352720 Report Date: 26-SEP-19 Page 5 of 6

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test Mati                           | rix Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------------------|---------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT Wat                   | er            |        |           |       |     |        |           |
| Batch R4842910                      |               |        |           |       |     |        |           |
| WG3173061-2 MB Bromodichloromethane |               | 0.0    |           | /1    |     | 2      |           |
| Bromoform                           |               | <2.0   |           | ug/L  |     | 5      | 26-SEP-19 |
|                                     |               | <5.0   |           | ug/L  |     |        | 26-SEP-19 |
| Bromomethane                        |               | <0.50  |           | ug/L  |     | 0.5    | 26-SEP-19 |
| Carbon tetrachloride                |               | <0.20  |           | ug/L  |     | 0.2    | 26-SEP-19 |
| Chlorobenzene                       |               | <0.50  |           | ug/L  |     | 0.5    | 26-SEP-19 |
| Chloroform                          |               | <1.0   |           | ug/L  |     | 1      | 26-SEP-19 |
| cis-1,2-Dichloroethylene            |               | <0.50  |           | ug/L  |     | 0.5    | 26-SEP-19 |
| cis-1,3-Dichloropropene             |               | <0.30  |           | ug/L  |     | 0.3    | 26-SEP-19 |
| Dibromochloromethane                |               | <2.0   |           | ug/L  |     | 2      | 26-SEP-19 |
| Dichlorodifluoromethane             |               | <2.0   |           | ug/L  |     | 2      | 26-SEP-19 |
| Ethylbenzene                        |               | < 0.50 |           | ug/L  |     | 0.5    | 26-SEP-19 |
| n-Hexane                            |               | < 0.50 |           | ug/L  |     | 0.5    | 26-SEP-19 |
| m+p-Xylenes                         |               | <0.40  |           | ug/L  |     | 0.4    | 26-SEP-19 |
| Methyl Ethyl Ketone                 |               | <20    |           | ug/L  |     | 20     | 26-SEP-19 |
| Methyl Isobutyl Ketone              |               | <20    |           | ug/L  |     | 20     | 26-SEP-19 |
| Methylene Chloride                  |               | <5.0   |           | ug/L  |     | 5      | 26-SEP-19 |
| MTBE                                |               | <2.0   |           | ug/L  |     | 2      | 26-SEP-19 |
| o-Xylene                            |               | < 0.30 |           | ug/L  |     | 0.3    | 26-SEP-19 |
| Styrene                             |               | <0.50  |           | ug/L  |     | 0.5    | 26-SEP-19 |
| Tetrachloroethylene                 |               | <0.50  |           | ug/L  |     | 0.5    | 26-SEP-19 |
| Toluene                             |               | < 0.50 |           | ug/L  |     | 0.5    | 26-SEP-19 |
| trans-1,2-Dichloroethylene          |               | < 0.50 |           | ug/L  |     | 0.5    | 26-SEP-19 |
| trans-1,3-Dichloropropene           |               | < 0.30 |           | ug/L  |     | 0.3    | 26-SEP-19 |
| Trichloroethylene                   |               | <0.50  |           | ug/L  |     | 0.5    | 26-SEP-19 |
| Trichlorofluoromethane              |               | <5.0   |           | ug/L  |     | 5      | 26-SEP-19 |
| Vinyl chloride                      |               | <0.50  |           | ug/L  |     | 0.5    | 26-SEP-19 |
| Surrogate: 1,4-Difluorobenzen       | ie            | 102.9  |           | %     |     | 70-130 | 26-SEP-19 |
| Surrogate: 4-Bromofluorobenz        |               | 100.2  |           | %     |     | 70-130 | 26-SEP-19 |

Page 6 of 6

Workorder: L2352720 Report Date: 26-SEP-19

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

#### 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                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------|
| 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.        |

#### **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 predetermined 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.

# ALS Environmental

#### Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L2352720-COFC

COC Number: 17 - 819317

Page ( of

|                                   |                                                   |                                                  |                                                                                                             |                                                                       |                         |                |                                                      |                  |             | _                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               |              |               |                                                  |                    | _                 |
|-----------------------------------|---------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------|----------------|------------------------------------------------------|------------------|-------------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------|--------------|---------------|--------------------------------------------------|--------------------|-------------------|
| Report To                         | Contact and company name below will appear        | on the final report                              |                                                                                                             | Alow - Contact your AM to confirm all EAP TATe (surcharges may apply) |                         |                |                                                      |                  |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               |              |               |                                                  |                    |                   |
| Company:                          | 242PT                                             |                                                  | Select Report Fo                                                                                            | rmari 🔀 Pof 🛚                                                         | N EXCEL 1997 EC         |                |                                                      | Regu             | lar [R]     | X Standar                                        | d TAT II rece                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ved by 3 pm   | - business ca | ys - no surc | harges app    | Хy                                               |                    |                   |
| Contact:                          | 71.56.4                                           |                                                  | Quality Control (C                                                                                          | 2C) Report with Repo                                                  | yr   <b>Y</b>   YES     | NO CM          | , <del>[</del>                                       | 4 day (l         | 4-20%       | `∃                                               | ½ \1 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Business      | day (E - 10   | <b>10%</b> ] |               |                                                  |                    |                   |
| Phone                             | 112-                                              |                                                  | Compare Acon                                                                                                | ifts to Criteria on Report - μ                                        | ravide details below II | pax checked    | 3 day [P3-25%] Same Day, Weekend or Statutory holida |                  |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ıy (E2 -2     | 00%           | -I           |               |                                                  |                    |                   |
|                                   | Company address below will appear on the final re | eport                                            | <br>Select Distribution                                                                                     | n 📉 EMAIL                                                             | MAIL                    | FAX            | 2 day (P2-50%) (Laboratory opening fees may apply)]  |                  |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               | 니            |               |                                                  |                    |                   |
| Street                            |                                                   | ·                                                | Email 1 or Fax                                                                                              |                                                                       |                         |                | · · · ·                                              | Delin and        | Time Requi  | red for all E&                                   | P TATE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | "T            |               | dd-mmi       | η-yy Nh       | :mm                                              |                    | $\Box$            |
|                                   |                                                   |                                                  | Email ?  For wats then can not be performed according to the service level selected, you will be contacted. |                                                                       |                         |                |                                                      |                  |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | ╗             |              |               |                                                  |                    |                   |
| City/Province.<br>Postel Code     |                                                   |                                                  | Email 3 Analysis Request                                                                                    |                                                                       |                         |                |                                                      |                  |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ╗             |               |              |               |                                                  |                    |                   |
|                                   | Same as Report To YES                             | C NO                                             |                                                                                                             |                                                                       |                         |                |                                                      |                  |             |                                                  | $\overline{}$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |               |              |               |                                                  |                    |                   |
|                                   |                                                   | <del>/                                    </del> | Select Invoice Dis                                                                                          |                                                                       | ANIL MAIL               | FAX            | 2 E                                                  |                  |             |                                                  | <u> </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |               |               |              | $\overline{}$ | <del>-</del> -1                                  | OLD                | <u> </u>          |
|                                   | Copy of Invoice with Report   YSS   {             | ,                                                |                                                                                                             | Strictoficer (PC) : F                                                 | Mal Mal                 | ****           | 뚭                                                    | -                | -           | <del></del>                                      | <del>}                                    </del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <del></del>   | <del></del>   |              | +             |                                                  | $\boldsymbol{\pi}$ | ₹                 |
| Company:                          | Acct Payert                                       |                                                  | Email for Fax                                                                                               |                                                                       |                         |                | ĮΣΙ                                                  |                  |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               |              |               | i                                                | Ĭ                  | ₹                 |
| Contact:                          |                                                   | , 14(                                            | Email 2                                                                                                     | HI and Gas Required                                                   | i Eleksia Jakiasak      |                | Ι₹Ι                                                  |                  |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | i I           | - 1           |              |               | i !                                              |                    | <u> </u>          |
|                                   | Project Information /                             |                                                  |                                                                                                             | HI BIRD GAS ACEDITION                                                 |                         | 101            | CONTAIN                                              | -                |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 11            |               |              |               |                                                  | Ž                  | Special           |
| ALS Account # / C                 |                                                   |                                                  | AFE/Cost Canter                                                                                             |                                                                       | PO#                     |                | ΙŌΙ                                                  |                  |             | :                                                | 1 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ] ]           |               |              |               | 1 1                                              | 0                  | 2                 |
|                                   | F75/900                                           |                                                  | Major-Minor Code                                                                                            |                                                                       | Routing Code.           |                | 1 <sup>-</sup> I                                     |                  |             | i                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1 1           | -             |              |               |                                                  | ဟ                  | · 😤               |
| PQ / AFE:                         |                                                   | <del></del>                                      | Regulsitioner:                                                                                              |                                                                       |                         |                | 비                                                    |                  | .           |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 1             |              |               | 1                                                | Щ                  | ¥                 |
| LSD:                              |                                                   | <u> </u>                                         | Location:                                                                                                   |                                                                       |                         |                | F I                                                  | د این            | 인           |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               | i            |               |                                                  | ו ליי              | ≩                 |
| 41 0 4 44                         | Order # (lab use only): / a a 5                   | 7072201                                          | ALS Contact: 1                                                                                              | <i>411</i>                                                            | Sampler: H              | 01             | li ji k                                              | : YL             | <u> </u>    |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               |              |               |                                                  | AMP                |                   |
|                                   | 750                                               | STOU 1                                           | ALG COMMON!                                                                                                 | Mathy                                                                 | 7 C                     | . Dlwg         | J₩ŀ                                                  | $\tilde{\sigma}$ | الو         |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               |              |               |                                                  | 2                  | 5                 |
| Alia Geruffe 9<br>(lab use traly) | Sample Identification a                           | and/or Coordinates                               |                                                                                                             | Date                                                                  | Time                    | Sample Type    |                                                      | 2 ⊂              | <u>-</u>    |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               |              |               |                                                  | S                  | SUSPECTED HAZARO  |
| (Date use control                 | (This description will ap                         | opear on the report)                             |                                                                                                             | (dd-mmm-yy)                                                           | ( <b>ኮ</b> ካ:ተነጣ)       |                | +-+                                                  |                  |             | <u> </u>                                         | $\vdash$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | $\rightarrow$ |               |              | -             | -                                                | <u> </u>           | <u> </u>          |
|                                   | Mudel                                             |                                                  |                                                                                                             | 24-50-19                                                              | 1016                    | Water          | 2                                                    | <b>%</b>         |             | <u>l</u> ]                                       | $oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{oldsymbol{ol}}}}}}}}}}}}}}}}}$ | $\perp$       |               | <u> </u>     |               |                                                  |                    | Ш                 |
|                                   | 11000                                             |                                                  |                                                                                                             | T                                                                     | 1100                    | 1              | 3                                                    | 1                | f           |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               |              | Ι.            | <u> </u>                                         |                    |                   |
| <del></del>                       | MW 107<br>Trip Blake                              |                                                  |                                                                                                             | <del>  4</del>                                                        |                         | <b>V</b>       | 7_                                                   | χ. Γ             |             |                                                  | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | $\neg$        |               |              |               | Т                                                | 1                  |                   |
|                                   | 11:12 Blanks                                      |                                                  |                                                                                                             | <del> </del>                                                          |                         | <del> </del>   | <del>  -  </del>                                     | ~                | +           | <del></del>                                      | + +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | +             |               |              | +             | 1 1                                              |                    | $\Box$            |
|                                   |                                                   |                                                  |                                                                                                             | <u> </u>                                                              | ļ                       | 1              | ┼                                                    |                  | _           | -                                                | <del>                                     </del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ++            | —∤—           | <del></del>  | <del></del> - | +                                                |                    | H                 |
|                                   |                                                   |                                                  |                                                                                                             |                                                                       |                         | ļ              | <b>↓</b> _ ↓                                         |                  | <del></del> | <del> </del>                                     | $\perp$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               |               | $\vdash$     |               | ╁                                                |                    | Н                 |
|                                   |                                                   |                                                  |                                                                                                             |                                                                       |                         |                |                                                      |                  |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               | <u> </u>     |               | $\sqcup$                                         |                    | Ш                 |
|                                   |                                                   |                                                  |                                                                                                             |                                                                       | ]                       |                |                                                      |                  |             | ]                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               | Ιi           |               |                                                  |                    | lΙ                |
| 7                                 |                                                   |                                                  |                                                                                                             |                                                                       | _                       |                | 1                                                    |                  |             |                                                  | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |               |              |               | П                                                |                    |                   |
|                                   |                                                   |                                                  |                                                                                                             | · ·                                                                   | +                       |                | 1                                                    | _                |             | <del>                                     </del> | <del>                                     </del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _             | <del></del>   |              | +             | <del> </del>                                     |                    | П                 |
| <u></u>                           |                                                   |                                                  |                                                                                                             |                                                                       | <del></del> -           |                | ╂╌╌┿                                                 |                  | +           | $\vdash$                                         | +                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <del></del>   |               |              |               | <del>}                                    </del> |                    | Н                 |
|                                   |                                                   |                                                  |                                                                                                             |                                                                       | ļ                       |                | igspace                                              |                  | _           |                                                  | <b>↓</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |               | <del></del> _ | $\vdash$     | $\perp$       | ┾┼                                               |                    | ⊢-                |
|                                   |                                                   |                                                  |                                                                                                             |                                                                       |                         |                |                                                      | L                |             |                                                  | l_                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | i             |               |              |               | $oxed{oxed}$                                     |                    | Ш                 |
|                                   |                                                   |                                                  |                                                                                                             | 1                                                                     |                         |                |                                                      | _                |             |                                                  | ТТ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               | _T.           |              |               |                                                  |                    | 1 1               |
|                                   | ·                                                 | Special Instructions J S                         | cecify Editoria to                                                                                          | add on report by click                                                | ting on the grop-d      | own list below | 1.                                                   |                  | :           | SAMP                                             | E CONO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | TION AS       | RECEIVED      | (lab usa     | only)         |                                                  |                    |                   |
| Drinking                          | Water (DW) Samples (client use)                   | opona manadani re                                |                                                                                                             | ctronic CDC only)                                                     |                         |                | Frozer                                               |                  | ы <b>П</b>  |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | arvations     | Y88           |              |               | No                                               |                    | <b>-</b>          |
| Are sampisa taken                 | from a Regulated DW System?                       |                                                  | <u> </u>                                                                                                    |                                                                       |                         | -              | ka Pa                                                | cks              | lce (       | Cubes 🔽                                          | Custody                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | seal intac    | t Yes         |              |               | No                                               | 1                  | □                 |
| YES                               | sk∐lwo                                            | Table (                                          | DLS                                                                                                         |                                                                       |                         |                | Çoolin                                               | g Initiat        |             |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               |              |               |                                                  |                    |                   |
| Are samples for hu                | uman consumption/ use?                            | ,, -                                             | _ ,                                                                                                         |                                                                       |                         |                |                                                      | PNI              | TAL COCA    | ea tempera                                       | TURES C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               | $\overline{}$ | ATTACO       | OLER TEM      | PERATUR                                          | E9 °C              |                   |
|                                   | s IXL no                                          |                                                  |                                                                                                             |                                                                       |                         |                |                                                      | T                | :           |                                                  | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | [             | 40            | ムー           |               | 1                                                | - 1                | Į                 |
| +                                 | SHIPMENT RELEASE (cilem use)                      | Ţ.                                               | <u> </u>                                                                                                    | INITIAL SHIPMEN                                                       | T RECEPTION (I          | sb use only)   |                                                      |                  |             | (i) \                                            | FINAL S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HIPMENT       | RECEPT        | ONTAB        | #a only       | )                                                |                    |                   |
| Roleased by                       | Mc Date.                                          | : Time:                                          | Received by:                                                                                                |                                                                       | Date:                   |                | Time:                                                | P                | eceived     | <b>2</b> /                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 16            | 1/1           | 1110         | <u> </u>      | 1                                                | タナムく               | 7                 |
| 101/                              | M.S. ZOLT/G/7                                     | 74                                               |                                                                                                             |                                                                       | :                       |                | 1                                                    |                  | <u></u>     |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |               | <u>†[[</u>   |               |                                                  | W.                 | ليد               |
| REFER TO BACK P                   | AGE FOR ALS LOCATIONS AND SAMPLING INFO           | CRMATION                                         |                                                                                                             | . WHI                                                                 | TE - LABORATORY         | COPY YELLO     | NY - CLIE                                            | NT COF           | ·Υ          |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 1             |              | •             |                                                  | A.PH               | State of the Sale |



CH2M HILL CANADA LIMITED ATTN: MICHAEL SHIRY

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Date Received: 13-NOV-19

Report Date: 25-NOV-19 14:12 (MT)

Version: FINAL REV. 2

Client Phone: 519-579-3500

## Certificate of Analysis

Lab Work Order #: L2381422
Project P.O. #: NOT SUBMITTED

Job Reference:

C of C Numbers: 17-723247, 17-723248

Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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L2381422 CONTD.... Page 2 of 8 25-NOV-19 14:12 (MT)

| Sample Details                              |                  |           |                |              |                        |                | 25        | -NOV-19 1 | 4:12 (MT) |
|---------------------------------------------|------------------|-----------|----------------|--------------|------------------------|----------------|-----------|-----------|-----------|
| Grouping Analyte                            | Result           | Qualifier | D.L.           | Units        | Analyzed               |                | Guideline | Limits    |           |
| L2381422-1 BH208-3-3.5                      |                  |           |                |              |                        |                |           |           |           |
| Sampled By: V. PETERS on 12-NOV-19 @ 10     | :4               |           |                |              |                        |                |           |           |           |
| Matrix: SOIL                                |                  |           |                |              |                        | #1             |           |           |           |
| Physical Tasts                              |                  |           |                |              |                        |                |           |           |           |
| Physical Tests                              | 0.45             |           | 0.05           | 0,           | 44 1101/440            |                |           |           |           |
| % Moisture Polycyclic Aromatic Hydrocarbons | 8.45             |           | 0.25           | %            | 14-NOV-19              |                |           |           |           |
| , ,                                         | .0.050           |           | 0.050          |              | 40 NOV 40              | 0.070          |           |           |           |
| Acenaphthene Acenaphthylene                 | <0.050<br><0.050 |           | 0.050<br>0.050 | ug/g         | 19-NOV-19<br>19-NOV-19 | 0.072<br>0.093 |           |           |           |
| Anthracene                                  | <0.050           |           | 0.050          | ug/g<br>ug/g | 19-NOV-19              | 0.093          |           |           |           |
| Benzo(a)anthracene                          | 0.030            |           | 0.050          | ug/g<br>ug/g | 19-NOV-19              | 0.16           |           |           |           |
| Benzo(a)pyrene                              | 0.085            |           | 0.050          | ug/g<br>ug/g | 19-NOV-19              | 0.30           |           |           |           |
| Benzo(a)pyrene Benzo(b)fluoranthene         | 0.106            |           | 0.050          | ug/g<br>ug/g | 19-NOV-19              | 0.47           |           |           |           |
| Benzo(g,h,i)perylene                        | 0.100            |           | 0.050          | ug/g<br>ug/g | 19-NOV-19              | 0.47           |           |           |           |
| Benzo(k)fluoranthene                        | <0.050           |           | 0.050          | ug/g         | 19-NOV-19              | 0.48           |           |           |           |
| Chrysene                                    | 0.113            |           | 0.050          | ug/g<br>ug/g | 19-NOV-19              | 2.8            |           |           |           |
| Dibenzo(ah)anthracene                       | <0.050           |           | 0.050          | ug/g<br>ug/g | 19-NOV-19              | 0.1            |           |           |           |
| Fluoranthene                                | 0.160            |           | 0.050          | ug/g<br>ug/g | 19-NOV-19              | 0.56           |           |           |           |
| Fluorene                                    | <0.050           |           | 0.050          | ug/g         | 19-NOV-19              | 0.12           |           |           |           |
| Indeno(1,2,3-cd)pyrene                      | 0.077            |           | 0.050          | ug/g         | 19-NOV-19              | 0.23           |           |           |           |
| 1+2-Methylnaphthalenes                      | 0.067            |           | 0.042          | ug/g         | 19-NOV-19              | 0.59           |           |           |           |
| 1-Methylnaphthalene                         | 0.032            |           | 0.030          | ug/g         | 19-NOV-19              | 0.59           |           |           |           |
| 2-Methylnaphthalene                         | 0.034            |           | 0.030          | ug/g         | 19-NOV-19              | 0.59           |           |           |           |
| Naphthalene                                 | 0.039            |           | 0.013          | ug/g         | 19-NOV-19              | 0.09           |           |           |           |
| Phenanthrene                                | 0.110            |           | 0.046          | ug/g         | 19-NOV-19              | 0.69           |           |           |           |
| Pyrene                                      | 0.139            |           | 0.050          | ug/g         | 19-NOV-19              | 1              |           |           |           |
| Surrogate: 2-Fluorobiphenyl                 | 85.7             |           | 50-140         | %            | 19-NOV-19              |                |           |           |           |
| Surrogate: p-Terphenyl d14                  | 75.7             |           | 50-140         | %            | 19-NOV-19              |                |           |           |           |
| L2381422-2 BH207-1.75-2.25                  |                  |           |                |              |                        |                |           |           |           |
| Sampled By: V. PETERS on 12-NOV-19 @ 14     | · Q              |           |                |              |                        |                |           |           |           |
| · · · · · · · · · · · · · · · · · · ·       | .3               |           |                |              |                        | #1             |           |           |           |
|                                             |                  |           |                |              |                        |                |           |           |           |
| Physical Tests                              |                  |           |                |              |                        |                |           |           |           |
| % Moisture                                  | 3.68             |           | 0.25           | %            | 14-NOV-19              |                |           |           |           |
| Hydrocarbons                                |                  |           |                |              |                        |                |           |           |           |
| F2 (C10-C16)                                | <10              |           | 10             | ug/g         | 19-NOV-19              | 10             |           |           |           |
| F3 (C16-C34)                                | <50              |           | 50             | ug/g         | 19-NOV-19              | 240            |           |           |           |
| F4 (C34-C50)                                | 87               |           | 50             | ug/g         | 19-NOV-19              | 120            |           |           |           |
| Chrom. to baseline at nC50                  | YES              |           |                | No Unit      | 19-NOV-19              |                |           |           |           |
| Surrogate: 2-Bromobenzotrifluoride          | 95.6             |           | 60-140         | %            | 19-NOV-19              |                |           |           |           |
| L2381422-3 BH207-2.5-3                      |                  |           |                |              |                        |                |           |           |           |
| Sampled By: V. PETERS on 12-NOV-19 @ 14     | :4               |           |                |              |                        |                |           |           |           |
| Matrix: SOIL                                |                  |           |                |              |                        | #1             |           |           |           |
| Physical Tests                              |                  |           |                |              |                        |                |           |           |           |
| % Moisture                                  | 4.20             |           | 0.25           | 0/           | 14 NOV 10              |                |           |           |           |
| % Moisture  Hydrocarbons                    | 4.39             |           | 0.25           | %            | 14-NOV-19              |                |           |           |           |
|                                             | .40              |           | 10             |              | 10 NOV 10              | 40             |           |           |           |
| F2 (C16 C24)                                | <10              |           | 10<br>50       | ug/g         | 19-NOV-19              | 10             |           |           |           |
| F3 (C16-C34)<br>F4 (C34-C50)                | <50<br><50       |           | 50             | ug/g         | 19-NOV-19<br>19-NOV-19 | 240            |           |           |           |
| 1 4 (034-030)                               | <30              |           | 30             | ug/g         | 19-11001-19            | 120            |           |           |           |

<sup>\*\*</sup> 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:



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|                                       | / \              |           | <b>O</b> 0.D   |              | INEI OIN               | \ <b>•</b> | _                | e 3 of 8<br><u>1914:12 (M</u> 7 |
|---------------------------------------|------------------|-----------|----------------|--------------|------------------------|------------|------------------|---------------------------------|
| Sample Details<br>Grouping Analyte    | Result           | Qualifier | D.L.           | Units        | Analyzed               |            | Guideline Limits | 3                               |
| 2381422-3 BH207-2.5-3                 |                  |           |                |              |                        |            |                  |                                 |
| ampled By: V. PETERS on 12-NOV-19 @ 1 | 14:4             |           |                |              |                        | 4          |                  |                                 |
| fatrix: SOIL                          |                  |           |                |              |                        | #1         |                  |                                 |
| lydrocarbons                          |                  |           |                |              |                        |            |                  |                                 |
| Chrom, to baseline at nC50            | YES              |           |                | No Unit      | 19-NOV-19              |            |                  |                                 |
| Surrogate: 2-Bromobenzotrifluoride    | 95.4             |           | 60-140         | %            | 19-NOV-19              |            |                  |                                 |
| 2381422-4 BH209-0.4-0.75              |                  |           |                |              |                        |            |                  |                                 |
| ampled By: V. PETERS on 13-NOV-19 @ ( | n8·4             |           |                |              |                        |            |                  |                                 |
| latrix: SOIL                          | 30.4             |           |                |              |                        | #1         |                  |                                 |
|                                       |                  |           |                |              |                        |            |                  |                                 |
| Physical Tests                        |                  |           |                |              |                        |            |                  |                                 |
| % Moisture                            | 2.68             |           | 0.25           | %            | 14-NOV-19              |            |                  |                                 |
| Metals                                | 1.0              |           | 4.0            | ,            | 45 1101/ 40            |            |                  |                                 |
| Antimony (Sb)                         | <1.0             |           | 1.0            | ug/g         | 15-NOV-19              | 1.3        |                  |                                 |
| Arsenic (As)                          | 3.1<br>26.4      |           | 1.0<br>1.0     | ug/g         | 15-NOV-19<br>15-NOV-19 | 18         |                  |                                 |
| Barium (Ba)<br>Beryllium (Be)         | <0.50            |           | 0.50           | ug/g         | 15-NOV-19              | 220<br>2.5 |                  |                                 |
| Boron (B)                             | <5.0             |           | 5.0            | ug/g<br>ug/g | 15-NOV-19              | 36         |                  |                                 |
| Cadmium (Cd)                          | <0.50            |           | 0.50           | ug/g<br>ug/g | 15-NOV-19              | 1.2        |                  |                                 |
| Chromium (Cr)                         | 5.6              |           | 1.0            | ug/g         | 15-NOV-19              | 70         |                  |                                 |
| Cobalt (Co)                           | 2.7              |           | 1.0            | ug/g         | 15-NOV-19              | 21         |                  |                                 |
| Copper (Cu)                           | 23.6             |           | 1.0            | ug/g         | 15-NOV-19              | 92         |                  |                                 |
| Lead (Pb)                             | 15.9             |           | 1.0            | ug/g         | 15-NOV-19              | 120        |                  |                                 |
| Mercury (Hg)                          | 0.0079           |           | 0.0050         | ug/g         | 15-NOV-19              | 0.27       |                  |                                 |
| Molybdenum (Mo)                       | <1.0             |           | 1.0            | ug/g         | 15-NOV-19              | 2          |                  |                                 |
| Nickel (Ni)                           | 6.6              |           | 1.0            | ug/g         | 15-NOV-19              | 82         |                  |                                 |
| Selenium (Se)                         | <1.0             |           | 1.0            | ug/g         | 15-NOV-19              | 1.5        |                  |                                 |
| Silver (Ag)                           | <0.20            |           | 0.20           | ug/g         | 15-NOV-19              | 0.5        |                  |                                 |
| Thallium (TI)                         | <0.50            |           | 0.50           | ug/g         | 15-NOV-19              | 1          |                  |                                 |
| Uranium (U)                           | <1.0             |           | 1.0            | ug/g         | 15-NOV-19              | 2.5        |                  |                                 |
| Vanadium (V)                          | 13.2             |           | 1.0            | ug/g         | 15-NOV-19              | 86         |                  |                                 |
| Zinc (Zn) Polychlorinated Biphenyls   | 114              |           | 5.0            | ug/g         | 15-NOV-19              | 290        |                  |                                 |
| , ,                                   | .0.010           |           | 0.040          |              | 40 NOV 40              |            |                  |                                 |
| Aroclor 1242<br>Aroclor 1248          | <0.010<br><0.010 |           | 0.010<br>0.010 | ug/g<br>ug/g | 19-NOV-19<br>19-NOV-19 |            |                  |                                 |
| Aroclor 1246<br>Aroclor 1254          | <0.010           |           | 0.010          | ug/g<br>ug/g | 19-NOV-19              |            |                  |                                 |
| Aroclor 1260                          | <0.010           |           | 0.010          | ug/g         | 19-NOV-19              |            |                  |                                 |
| Total PCBs                            | <0.020           |           | 0.020          | ug/g         | 19-NOV-19              | 0.3        |                  |                                 |
| Surrogate: d14-Terphenyl              | 80.4             |           | 60-140         | %            | 19-NOV-19              |            |                  |                                 |
| 2381422-8 BH209-2-2.4                 |                  |           |                |              |                        |            |                  |                                 |
| ampled By: V. PETERS on 13-NOV-19 @ ( | 08:5             |           |                |              |                        |            |                  |                                 |
| latrix: SOIL                          |                  |           |                |              |                        | #1         |                  |                                 |
|                                       |                  |           |                |              |                        |            |                  |                                 |
| Physical Tests                        | 7.00             |           | 0.05           | 0,1          | 44 NOV 45              |            |                  |                                 |
| % Moisture<br><b>//etals</b>          | 7.80             |           | 0.25           | %            | 14-NOV-19              |            |                  |                                 |
|                                       | 4.0              |           | 4.0            |              | 45 NOV 40              | 4.0        |                  |                                 |
| Antimony (Sb)                         | <1.0<br>2.7      |           | 1.0            | ug/g         | 15-NOV-19              | 1.3        |                  |                                 |
| Arsenic (As)<br>Barium (Ba)           | 31.4             |           | 1.0<br>1.0     | ug/g         | 15-NOV-19<br>15-NOV-19 | 18         |                  |                                 |
| Danum (Da)                            | 31.4             |           | 1.0            | ug/g         | 19-1004-19             | 220        |                  |                                 |

<sup>\*\*</sup> 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:



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25-NOV-19 14:12 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2381422-8 BH209-2-2.4 Sampled By: V. PETERS on 13-NOV-19 @ 08:5 #1 Matrix: SOIL Metals < 0.50 0.50 15-NOV-19 Beryllium (Be) ug/g 2.5 Boron (B) < 5.0 5.0 ug/g 15-NOV-19 36 Cadmium (Cd) < 0.50 0.50 ug/g 15-NOV-19 1.2 Chromium (Cr) 12.5 15-NOV-19 1.0 70 ug/g Cobalt (Co) 4.4 15-NOV-19 21 1.0 ug/g 11.0 15-NOV-19 Copper (Cu) 1.0 92 ug/g 15-NOV-19 Lead (Pb) 9.2 1.0 ug/g 120 0.0198 0.0050 15-NOV-19 Mercury (Hg) ug/g 0.27 Molybdenum (Mo) <1.0 1.0 15-NOV-19 2 ug/g Nickel (Ni) 9.5 15-NOV-19 82 1.0 ug/g 15-NOV-19 Selenium (Se) <1.0 1.0 ug/g 1.5 Silver (Ag) < 0.20 0.20 ug/g 15-NOV-19 0.5 Thallium (TI) < 0.50 0.50 15-NOV-19 ug/g 1 15-NOV-19 Uranium (U) <1.0 1.0 2.5 ug/g Vanadium (V) 24.3 15-NOV-19 1.0 ug/g 86 15-NOV-19 Zinc (Zn) 43.1 5.0 290 ug/g **Polychlorinated Biphenyls** Aroclor 1242 <0.010 0.010 ug/g 19-NOV-19 Aroclor 1248 < 0.010 0.010 ug/g 19-NOV-19 19-NOV-19 Aroclor 1254 < 0.010 0.010 ug/g Aroclor 1260 < 0.010 0.010 19-NOV-19 ug/g Total PCBs < 0.020 0.020 19-NOV-19 ug/g 0.3 Surrogate: d14-Terphenyl 82.7 60-140 % 19-NOV-19 L2381422-17 DUP 1 Sampled By: V. PETERS on 13-NOV-19 #1 SOIL Matrix: **Physical Tests** 7.86 0.25 14-NOV-19 % Moisture % **Hydrocarbons** F2 (C10-C16) <10 10 ug/g 19-NOV-19 10 F3 (C16-C34) < 50 50 19-NOV-19 240 ug/g F4 (C34-C50) <50 50 ug/g 19-NOV-19 120 Chrom. to baseline at nC50 YES No Unit 19-NOV-19 Surrogate: 2-Bromobenzotrifluoride 90.7 60-140 % 19-NOV-19 L2381422-18 DUP 2 Sampled By: V. PETERS on 13-NOV-19 #1 SOIL Matrix: **Physical Tests** % Moisture 2.41 0.25 % 14-NOV-19 **Polychlorinated Biphenyls** Aroclor 1242 < 0.010 0.010 19-NOV-19 ug/g Aroclor 1248 < 0.010 0.010 19-NOV-19 ug/g <0.010 19-NOV-19 Aroclor 1254 0.010 ug/g

< 0.010

0.010

ug/g

19-NOV-19

Aroclor 1260

<sup>\*\*</sup> 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:



L2381422 CONTD.... Page 5 of 8 25-NOV-19 14:12 (MT)

| Grouping Analyte Result Qualifier D.L. Units Analyzed Guideline Limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sample Details                     |        |           |        |       |             |      | 2        | 5-NOV-19 1 | 4:12 (MT) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------|-----------|--------|-------|-------------|------|----------|------------|-----------|
| Matrix: SOIL   #1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Sample Details<br>Grouping Analyte | Result | Qualifier | D.L.   | Units | Analyzed    |      | Guidelin | e Limits   |           |
| Matrix: SOIL   SOIL   SOIL   Polychlorinated Biphenyls   Total PCBs   \$<0.020   0.020   ug/g   19-NOV-19   0.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | L2381422-18 DUP 2                  |        |           |        |       |             |      |          |            |           |
| Polychlorinated Biphenyls   Total PCBs   Surrogate: d14-Terphenyl   80.6   60-140   %   19-NOV-19   0.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sampled By: V. PETERS on 13-NOV-19 |        |           |        |       |             |      |          |            |           |
| Total PCBs   Surrogate: d14-Terphenyl   80.6   60-140   9%   19-NOV-19   0.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Matrix: SOIL                       |        |           |        |       |             | #1   |          |            |           |
| Surrogate: d14-Terphenyl   80.6   60-140   % 19-NOV-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Polychlorinated Biphenyls          |        |           |        |       |             |      |          |            |           |
| Surrogate: d14-Terphenyl   80.6   60-140   % 19-NOV-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Total PCBs                         | <0.020 |           | 0.020  | ug/g  | 19-NOV-19   | 0.3  |          |            |           |
| Matrix: SOIL   #1   #1   #1     #1     #1     #1     #1       #1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Surrogate: d14-Terphenyl           | 80.6   |           | 60-140 | I     | 19-NOV-19   |      |          |            |           |
| Matrix: SOIL   #1   #1   #1     #1     #1     #1     #1       #1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | L2381422-19 DUP 3                  |        |           |        |       |             |      |          |            |           |
| Matrix:         SOIL         #1         #1           Physical Tests         % Moisture         8.32         0.25         % 14-NOV-19           Metals         Antimony (Sb)         <1.0         1.0         ug/g         15-NOV-19         1.3           Arsenic (As)         2.5         1.0         ug/g         15-NOV-19         18           Barium (Ba)         28.7         1.0         ug/g         15-NOV-19         220           Beryllium (Be)         <0.50         0.50         ug/g         15-NOV-19         2.5           Boron (B)         <5.0         5.0         ug/g         15-NOV-19         2.5           Cadmium (Cd)         <0.50         0.50         ug/g         15-NOV-19         1.2           Chromium (Cr)         11.6         1.0         ug/g         15-NOV-19         70           Cobalt (Co)         4.2         1.0         ug/g         15-NOV-19         70           Cobalt (Co)         4.2         1.0         ug/g         15-NOV-19         92           Lead (Pb)         8.9         1.0         ug/g         15-NOV-19         120           Mercury (Hg)         0.0180         0.0050         ug/g         15-NOV-19         2 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> |                                    |        |           |        |       |             |      |          |            |           |
| Metals     8.32     0.25     %     14-NOV-19       Metals     Metals       Antimony (Sb)     <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    |        |           |        |       |             | #1   |          |            |           |
| Metals     8.32     0.25     %     14-NOV-19       Metals     Metals       Antimony (Sb)     <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Physical Tests                     |        |           |        |       |             |      |          |            |           |
| Metals          1.0         ug/g         15-NOV-19         1.3           Arsenic (As)         2.5         1.0         ug/g         15-NOV-19         18           Barium (Ba)         28.7         1.0         ug/g         15-NOV-19         220           Beryllium (Be)         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    | 8 32   |           | 0.25   | %     | 14-NOV-19   |      |          |            |           |
| Antimony (Sb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                    | 0.32   |           | 0.23   | /0    | 14-1100-19  |      |          |            |           |
| Arsenic (As) Barium (Ba) Barium (Ba) Beryllium (Be) Boron (B) Cadmium (Cd) Chromium (Cr) Cobalt (Co) Lead (Pb) Mercury (Hg) Mercury (Hg) Mercury (Hg) Molybdenum (Mo) Nickel (Ni) Selenium (Se) Silver (Ag) Silver (Ag) Vanadium (U) Vanadium (U) Vanadium (V)  Part (As) Silver (Ag) Servalia (As) Solo (28.7  1.0  ug/g 15-NOV-19 220 15-NOV-19 225 10.0  ug/g 15-NOV-19 25 10.0  ug/g 15-NOV-19 21 120 15-NOV-19 21 15-NOV-19 21 15-NOV-19 21 15-NOV-19 21 15-NOV-19 21 15-NOV-19 21 15-NOV-19 21 15-NOV-19 21 15-NOV-19 22 15-NOV-19 21 15-NOV-19 21 15-NOV-19 21 15-NOV-19 21 15-NOV-19 21 21 21 22 22 23 24 25 26 27 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    | <1.0   |           | 1.0    | na/a  | 15-NOV-19   | 1 3  |          |            |           |
| Barium (Ba)       28.7       1.0       ug/g       15-NOV-19       220         Beryllium (Be)       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |        |           |        |       |             |      |          |            |           |
| Beryllium (Be)         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                    |        |           |        |       |             |      |          |            |           |
| Boron (B)         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    |        |           |        |       |             |      |          |            |           |
| Cadmium (Cd)       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | • • •                              |        |           |        |       |             |      |          |            |           |
| Chromium (Cr)       11.6       1.0       ug/g       15-NOV-19       70         Cobalt (Co)       4.2       1.0       ug/g       15-NOV-19       21         Copper (Cu)       9.8       1.0       ug/g       15-NOV-19       92         Lead (Pb)       8.9       1.0       ug/g       15-NOV-19       120         Mercury (Hg)       0.0180       0.0050       ug/g       15-NOV-19       0.27         Molybdenum (Mo)       <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cadmium (Cd)                       | <0.50  |           | 0.50   |       |             |      |          |            |           |
| Copper (Cu)       9.8       1.0       ug/g       15-NOV-19       92         Lead (Pb)       8.9       1.0       ug/g       15-NOV-19       120         Mercury (Hg)       0.0180       0.0050       ug/g       15-NOV-19       0.27         Molybdenum (Mo)       <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Chromium (Cr)                      | 11.6   |           | 1.0    |       | 15-NOV-19   | 70   |          |            |           |
| Lead (Pb)       8.9       1.0       ug/g       15-NOV-19       120         Mercury (Hg)       0.0180       0.0050       ug/g       15-NOV-19       0.27         Molybdenum (Mo)       <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cobalt (Co)                        | 4.2    |           | 1.0    | ug/g  | 15-NOV-19   | 21   |          |            |           |
| Mercury (Hg)         0.0180         0.0050         ug/g         15-NOV-19         0.27           Molybdenum (Mo)         <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Copper (Cu)                        | 9.8    |           | 1.0    | ug/g  | 15-NOV-19   | 92   |          |            |           |
| Molybdenum (Mo)       <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                    | 8.9    |           | 1.0    | ug/g  | 15-NOV-19   | 120  |          |            |           |
| Nickel (Ni)     8.2     1.0     ug/g     15-NOV-19     82       Selenium (Se)     <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    | 0.0180 |           |        | ug/g  |             | 0.27 |          |            |           |
| Selenium (Se)       <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |        |           |        | ug/g  |             |      |          |            |           |
| Silver (Ag)       <0.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    |        |           |        |       |             |      |          |            |           |
| Thallium (TI)       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    |        |           |        |       |             |      |          |            |           |
| Uranium (U)       <1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ·                                  |        |           |        |       |             |      |          |            |           |
| Vanadium (V)         23.9         1.0         ug/g         15-NOV-19         86                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        | I     |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        | I     |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ZIIIC (ZII)                        | 40.9   |           | 5.0    | ug/g  | 13-11007-19 | 290  |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                    |        |           |        |       |             |      |          |            |           |

<sup>\*\*</sup> 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:

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).

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

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).

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 CCME CWS-PHC, Pub #1310, Dec 2001-S

Parameters

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.

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-sq 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), 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 200.2/6020A (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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PCB-511-WT Soil PCB-O.Reg 153/04 (July 2011) SW846 3510/8082

An aliquot of a solid sample is extracted with a solvent, extract is cleaned up and analyzed on the 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).

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).

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).

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

Chain of Custody numbers:

17-723247 17-723248

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<br>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.



Workorder: L2381422 Report Date: 25-NOV-19 Page 1 of 8

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                               |         | Matrix        | Reference                 | Result                | Qualifier | Units | RPD    | Limit  | Analyzed  |
|------------------------------------|---------|---------------|---------------------------|-----------------------|-----------|-------|--------|--------|-----------|
| F2-F4-511-WT                       |         | Soil          |                           |                       |           |       |        |        |           |
| Batch R4                           | 1915912 |               |                           |                       |           |       |        |        |           |
| <b>WG3221434-3</b><br>F2 (C10-C16) | DUP     |               | <b>WG3221434-5</b> 48     | 39                    |           | ug/g  | 20     | 30     | 19-NOV-19 |
| F3 (C16-C34)                       |         |               | 184                       | 161                   |           | ug/g  | 13     | 30     | 19-NOV-19 |
| F4 (C34-C50)                       |         |               | <50                       | <50                   | RPD-NA    | ug/g  | N/A    | 30     | 19-NOV-19 |
| <b>WG3221434-2</b><br>F2 (C10-C16) | LCS     |               |                           | 112.6                 |           | %     |        | 80-120 | 19-NOV-19 |
| F3 (C16-C34)                       |         |               |                           | 113.5                 |           | %     |        | 80-120 | 19-NOV-19 |
| F4 (C34-C50)                       |         |               |                           | 104.4                 |           | %     |        | 80-120 | 19-NOV-19 |
| <b>WG3221434-1</b><br>F2 (C10-C16) | MB      |               |                           | <10                   |           | ug/g  |        | 10     | 19-NOV-19 |
| F3 (C16-C34)                       |         |               |                           | <50                   |           | ug/g  |        | 50     | 19-NOV-19 |
| F4 (C34-C50)                       |         |               |                           | <50                   |           | ug/g  |        | 50     | 19-NOV-19 |
| Surrogate: 2-Bi                    | omobenz | zotrifluoride |                           | 96.0                  |           | %     |        | 60-140 | 19-NOV-19 |
| WG3221434-4                        | MS      |               | WG3221434-5               |                       |           |       |        |        |           |
| F2 (C10-C16)                       |         |               |                           | 106.4                 |           | %     |        | 60-140 | 19-NOV-19 |
| F3 (C16-C34)                       |         |               |                           | 105.1                 |           | %     |        | 60-140 | 19-NOV-19 |
| F4 (C34-C50)                       |         |               |                           | 107.0                 |           | %     |        | 60-140 | 19-NOV-19 |
| HG-200.2-CVAA-W                    | /T      | Soil          |                           |                       |           |       |        |        |           |
|                                    | 1908617 |               |                           |                       |           |       |        |        |           |
| <b>WG3219187-2</b><br>Mercury (Hg) | CRM     |               | WT-CANMET-1               | <b>ΓΙLL2</b><br>115.0 |           | %     |        | 70-130 | 15-NOV-19 |
| <b>WG3219187-6</b><br>Mercury (Hg) | DUP     |               | <b>WG3219187-5</b> 0.0111 | 0.0068                | J         | ug/g  | 0.0044 | 0.01   | 15-NOV-19 |
| <b>WG3219187-3</b><br>Mercury (Hg) | LCS     |               |                           | 113.5                 |           | %     |        | 80-120 | 15-NOV-19 |
| WG3219187-1<br>Mercury (Hg)        | МВ      |               |                           | <0.0050               |           | mg/kg |        | 0.005  | 15-NOV-19 |
| MET-200.2-CCMS-                    | \A/T    | Soil          |                           | <0.0000               |           | mg/kg |        | 0.000  | 15-110-19 |
|                                    | 1909398 | J011          |                           |                       |           |       |        |        |           |
| WG3219187-2                        | CRM     |               | WT-CANMET-1               | TII I 2               |           |       |        |        |           |
| Antimony (Sb)                      |         |               | CARMET                    | 121.1                 |           | %     |        | 70-130 | 15-NOV-19 |
| Arsenic (As)                       |         |               |                           | 95.3                  |           | %     |        | 70-130 | 15-NOV-19 |
| Barium (Ba)                        |         |               |                           | 94.3                  |           | %     |        | 70-130 | 15-NOV-19 |
| Beryllium (Be)                     |         |               |                           | 96.0                  |           | %     |        | 70-130 | 15-NOV-19 |
| Boron (B)                          |         |               |                           | 3.7                   |           | mg/kg |        | 0-8.6  | 15-NOV-19 |
| Cadmium (Cd)                       |         |               |                           | 93.8                  |           | %     |        | 70-130 | 15-NOV-19 |
|                                    |         |               |                           |                       |           |       |        |        |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                             | Matrix | Reference  | Result  | Qualifier | Units | RPD | Limit     | Analyzed  |
|----------------------------------|--------|------------|---------|-----------|-------|-----|-----------|-----------|
| MET-200.2-CCMS-WT                | Soil   |            |         |           |       |     |           |           |
| Batch R4909398                   |        |            |         |           |       |     |           |           |
| WG3219187-2 CRM                  |        | WT-CANMET  |         |           | 0.4   |     |           |           |
| Chromium (Cr)                    |        |            | 95.7    |           | %     |     | 70-130    | 15-NOV-19 |
| Cobalt (Co)                      |        |            | 94.4    |           | %     |     | 70-130    | 15-NOV-19 |
| Copper (Cu)                      |        |            | 95.1    |           | %     |     | 70-130    | 15-NOV-19 |
| Lead (Pb)                        |        |            | 100.3   |           | %     |     | 70-130    | 15-NOV-19 |
| Molybdenum (Mo)                  |        |            | 100.6   |           | %     |     | 70-130    | 15-NOV-19 |
| Nickel (Ni)                      |        |            | 97.0    |           | %     |     | 70-130    | 15-NOV-19 |
| Selenium (Se)                    |        |            | 0.35    |           | mg/kg |     | 0.15-0.55 | 15-NOV-19 |
| Silver (Ag)                      |        |            | 0.27    |           | mg/kg |     | 0.16-0.36 | 15-NOV-19 |
| Thallium (TI)                    |        |            | 102.8   |           | %     |     | 70-130    | 15-NOV-19 |
| Uranium (U)                      |        |            | 101.6   |           | %     |     | 70-130    | 15-NOV-19 |
| Vanadium (V)                     |        |            | 96.3    |           | %     |     | 70-130    | 15-NOV-19 |
| Zinc (Zn)                        |        |            | 89.7    |           | %     |     | 70-130    | 15-NOV-19 |
| WG3219187-6 DUP                  |        | WG3219187- |         |           | a/a   | 0.0 | 00        |           |
| Antimony (Sb)                    |        | 0.52       | 0.56    |           | ug/g  | 6.3 | 30        | 15-NOV-19 |
| Arsenic (As)                     |        | 1.70       | 1.69    |           | ug/g  | 0.4 | 30        | 15-NOV-19 |
| Barium (Ba)                      |        | 20.8       | 20.0    |           | ug/g  | 4.1 | 40        | 15-NOV-19 |
| Beryllium (Be)                   |        | 0.11       | 0.13    |           | ug/g  | 16  | 30        | 15-NOV-19 |
| Boron (B)                        |        | <5.0       | <5.0    | RPD-NA    | ug/g  | N/A | 30        | 15-NOV-19 |
| Cadmium (Cd)                     |        | 0.183      | 0.185   |           | ug/g  | 0.9 | 30        | 15-NOV-19 |
| Chromium (Cr)                    |        | 66.8       | 60.9    |           | ug/g  | 9.2 | 30        | 15-NOV-19 |
| Cobalt (Co)                      |        | 3.34       | 2.79    |           | ug/g  | 18  | 30        | 15-NOV-19 |
| Copper (Cu)                      |        | 25.6       | 31.0    |           | ug/g  | 19  | 30        | 15-NOV-19 |
| Lead (Pb)                        |        | 12.5       | 10.3    |           | ug/g  | 20  | 40        | 15-NOV-19 |
| Molybdenum (Mo)                  |        | 1.81       | 1.73    |           | ug/g  | 4.8 | 40        | 15-NOV-19 |
| Nickel (Ni)                      |        | 20.0       | 18.8    |           | ug/g  | 5.7 | 30        | 15-NOV-19 |
| Selenium (Se)                    |        | <0.20      | <0.20   | RPD-NA    | ug/g  | N/A | 30        | 15-NOV-19 |
| Silver (Ag)                      |        | <0.10      | <0.10   | RPD-NA    | ug/g  | N/A | 40        | 15-NOV-19 |
| Thallium (TI)                    |        | <0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 30        | 15-NOV-19 |
| Uranium (U)                      |        | 0.242      | 0.294   |           | ug/g  | 19  | 30        | 15-NOV-19 |
| Vanadium (V)                     |        | 13.2       | 13.3    |           | ug/g  | 1.0 | 30        | 15-NOV-19 |
| Zinc (Zn)                        |        | 94.0       | 115     |           | ug/g  | 20  | 30        | 15-NOV-19 |
| WG3219187-4 LCS<br>Antimony (Sb) |        |            | 105.0   |           | %     |     | 80-120    | 15-NOV-19 |



Workorder: L2381422 Report Date: 25-NOV-19 Page 3 of 8

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| MET-2002-CCMS-WT   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R490038   R4900   | Test              | Matrix | Reference | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------|-----------|---------|-----------|-------|-----|--------|-----------|
| Marcanic (As)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | MET-200.2-CCMS-WT | Soil   |           |         |           |       |     |        |           |
| Arsenic (As) 94.6 % 80-120 15-NOV-19 Barium (Ba) 98.5 % 80-120 15-NOV-19 Barylium (Be) 98.7 % 80-120 15-NOV-19 Boron (B) 90.8 % 90-120 15-NOV-19 Boron (B) 90.8 % 90-120 15-NOV-19 Cadmium (Cd) 94.1 % 80-120 15-NOV-19 Chromium (Cr) 96.1 % 80-120 15-NOV-19 Chromium (Cr) 95.4 % 80-120 15-NOV-19 Copper (Cu) 92.7 % 80-120 15-NOV-19 Lead (Pb) 97.4 % 80-120 15-NOV-19 Nickel (Ni) 95.0 % 80-120 15-NOV-19 Selenium (Se) 96.4 % 80-120 15-NOV-19 Silver (Ag) 101.7 % 80-120 15-NOV-19 Uranium (U) 99.7 % 80-120 15-NOV-19 Uranium (U) 99.7 % 80-120 15-NOV-19 Uranium (V) 99.7 % 80-120 15-NOV-19 Uranium (V) 99.7 % 80-120 15-NOV-19 WG3219187-1 MB Artsenic (As) 90-120 15-NOV-19 Barlium (Ba) 90.10 mg/kg 0.1 15-NOV-19 Beryllium (Ba) 90.10 mg/kg 0.1 15-NOV-19 Beryllium (Ba) 90.10 mg/kg 0.1 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper (Cu) 90.00 mg/kg 0.5 15-NOV-19 Copper ( | Batch R4909398    |        |           |         |           |       |     |        |           |
| Barium (Ba)         98.5         %         80-120         15-NOV-19           Beryllium (Be)         95.7         %         80-120         15-NOV-19           Boron (B)         90.8         %         90-120         15-NOV-19           Cadmium (Cd)         94.1         %         80-120         15-NOV-19           Chomium (Cr)         96.1         %         80-120         15-NOV-19           Cobalt (Co)         95.4         %         80-120         15-NOV-19           Copper (Cu)         92.7         %         80-120         15-NOV-19           Lead (Pb)         97.4         %         80-120         15-NOV-19           Molybdenum (Mo)         101.5         %         80-120         15-NOV-19           Nickel (Ni)         95.0         %         80-120         15-NOV-19           Nickel (Ni)         96.4         %         80-120         15-NOV-19           Selenium (Se)         96.4         %         80-120         15-NOV-19           Thallium (Ti)         97.3         %         80-120         15-NOV-19           Thallium (Ti)         99.7         %         80-120         15-NOV-19           Vanadium (V         29.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |        |           | 04.0    |           | 0/    |     |        | .=        |
| Beryllium (Be)         95.7         %         80-120         15-NOV-19           Boron (B)         90.8         %         80-120         15-NOV-19           Cadmium (Cd)         94.1         %         80-120         15-NOV-19           Chromium (Cr)         96.1         %         80-120         15-NOV-19           Cobait (Co)         95.4         %         80-120         15-NOV-19           Copper (Cu)         92.7         %         80-120         15-NOV-19           Lead (Pb)         97.4         %         80-120         15-NOV-19           Molybdenum (Mo)         101.5         %         80-120         15-NOV-19           Nickal (Ni)         95.0         %         80-120         15-NOV-19           Selenium (Se)         96.4         %         80-120         15-NOV-19           Silver (Ag)         101.7         %         80-120         15-NOV-19           Thallium (Ti)         97.3         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           WG3219187-1         MB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                   |        |           |         |           |       |     |        |           |
| Boron (B)   90.8   %   80-120   15-NOV-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |        |           |         |           |       |     |        |           |
| Cadmium (Cd)         94.1         %         80-120         15-NOV-19           Chromium (Cr)         96.1         %         80-120         15-NOV-19           Cobalt (Co)         95.4         %         80-120         15-NOV-19           Copper (Cu)         92.7         %         80-120         15-NOV-19           Lead (Pb)         97.4         %         80-120         15-NOV-19           Molybdenum (Mo)         101.5         %         80-120         15-NOV-19           Nickel (Ni)         95.0         %         80-120         15-NOV-19           Nickel (Ni)         95.0         %         80-120         15-NOV-19           Selenium (Se)         96.4         %         80-120         15-NOV-19           Silver (Ag)         101.7         %         80-120         15-NOV-19           Thallium (TT)         97.3         %         80-120         15-NOV-19           Uranium (U)         99.7         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           WG3219187-1         MB         N         20.10         mg/kg         0.1         15-NOV-19           Arsenic (Z                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                   |        |           |         |           |       |     |        |           |
| Chromium (Cr)         96.1         %         80-120         15-NOV-19           Cobalt (Co)         95.4         %         80-120         15-NOV-19           Copper (Cu)         92.7         %         80-120         15-NOV-19           Lead (Pb)         97.4         %         80-120         15-NOV-19           Molybdenum (Mo)         101.5         %         80-120         15-NOV-19           Nickel (Ni)         95.0         %         80-120         15-NOV-19           Nickel (Ni)         95.0         %         80-120         15-NOV-19           Selenium (Se)         96.4         %         80-120         15-NOV-19           Silver (Ag)         101.7         %         80-120         15-NOV-19           Thallium (TI)         97.3         %         80-120         15-NOV-19           Uranium (U)         99.7         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           Zinc (Zn)         92.2         %         80-120         15-NOV-19           WG3219187-1         MB         Antimony (Sb)          0.1         15-NOV-19           Arsenic (As) <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |        |           |         |           |       |     |        |           |
| Cobalt (Co)         95.4         %         80-120         15-NOV-19           Copper (Cu)         92.7         %         80-120         15-NOV-19           Lead (Pb)         97.4         %         80-120         15-NOV-19           Molybdenum (Mo)         101.5         %         80-120         15-NOV-19           Nickel (Ni)         95.0         %         80-120         15-NOV-19           Selenium (Se)         96.4         %         80-120         15-NOV-19           Silver (Ag)         101.7         %         80-120         15-NOV-19           Thallium (TI)         97.3         %         80-120         15-NOV-19           Uranium (U)         99.7         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           Zinc (Zn)         92.2         %         80-120         15-NOV-19           WG3219187-1         MB         Antimony (Sb)         <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |        |           |         |           |       |     |        |           |
| Copper (Cu)         92.7         %         80-120         15-NOV-19           Lead (Pb)         97.4         %         80-120         15-NOV-19           Molybdenum (Mo)         101.5         %         80-120         15-NOV-19           Nickel (Ni)         95.0         %         80-120         15-NOV-19           Selenium (Se)         96.4         %         80-120         15-NOV-19           Silver (Ag)         101.7         %         80-120         15-NOV-19           Thallium (TI)         97.3         %         80-120         15-NOV-19           Uranium (U)         99.7         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           WG3219187-1         MB         Antimony (Sb)          0.10         mg/kg         0.1         15-NOV-19           Arsenic (As)          <.0.10         mg/kg         0.1         15-NOV-19           Barium (Ba)         <.0.50         mg/kg         0.1         15-NOV-19           Beryllium (Ce)         <.0.10         mg/kg         0.1 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                   |        |           |         |           |       |     |        |           |
| Lead (Pb)   97.4   %   80-120   15-NOV-19     Molybdenum (Mo)   101.5   %   80-120   15-NOV-19     Nickel (Ni)   95.0   %   80-120   15-NOV-19     Selenium (Se)   96.4   %   80-120   15-NOV-19     Silver (Ag)   101.7   %   80-120   15-NOV-19     Thallium (Ti)   97.3   %   80-120   15-NOV-19     Uranium (U)   99.7   %   80-120   15-NOV-19     Uranium (V)   98.3   %   80-120   15-NOV-19     Zinc (Zn)   92.2   %   80-120   15-NOV-19     WG3219187-1   MB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |        |           |         |           |       |     |        |           |
| Molybdenum (Mo)         101.5         %         80-120         15-NOV-19           Nickel (Ni)         95.0         %         80-120         15-NOV-19           Selenium (Se)         96.4         %         80-120         15-NOV-19           Silver (Ag)         101.7         %         80-120         15-NOV-19           Thallium (TI)         97.3         %         80-120         15-NOV-19           Uranium (U)         99.7         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           Zinc (Zn)         92.2         %         80-120         15-NOV-19           WG3219187-1         MB         Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |        |           |         |           |       |     |        |           |
| Nickel (Ni) 95.0 % 80-120 15-NOV-19 Selenium (Se) 96.4 % 80-120 15-NOV-19 Silver (Ag) 101.7 % 80-120 15-NOV-19 Thallium (TI) 97.3 % 80-120 15-NOV-19 Uranium (U) 99.7 % 80-120 15-NOV-19 Vanadium (V) 98.3 % 80-120 15-NOV-19 Zinc (Zn) 92.2 % 80-120 15-NOV-19  WG3219187-1 MB Antimony (Sb) <0.10 mg/kg 0.1 15-NOV-19 Barlum (Ba) <0.50 mg/kg 0.5 15-NOV-19 Beryllium (Be) <0.10 mg/kg 0.1 15-NOV-19 Cadmium (Cd) <0.020 mg/kg 0.5 15-NOV-19 Cadmium (Cd) <0.020 mg/kg 0.5 15-NOV-19 Copper (Cu) <0.50 mg/kg 0.5 15-NOV-19 Copper (Cu) <0.50 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.010 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Mo) <0.050 mg/kg 0.5 15-NOV-19 Molybdenum (Se) <0.050 mg/kg 0.5 15-NOV-19 Selenium (Se) <0.050 mg/kg 0.5 15-NOV-19 Selenium (Se) <0.050 mg/kg 0.5 15-NOV-19 Silver (Ag) <0.050 mg/kg 0.5 15-NOV-19 Silver (Ag) <0.050 mg/kg 0.5 15-NOV-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |        |           |         |           |       |     |        |           |
| Selenium (Se)         96.4         %         80-120         15-NOV-19           Silver (Ag)         101.7         %         80-120         15-NOV-19           Thallium (TI)         97.3         %         80-120         15-NOV-19           Uranium (U)         99.7         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           Zinc (Zn)         92.2         %         80-120         15-NOV-19           WG3219187-1         MB         Antimony (Sb)         <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | . , ,             |        |           |         |           |       |     |        |           |
| Silver (Ag)         101.7         %         80-120         15-NOV-19           Thallium (TI)         97.3         %         80-120         15-NOV-19           Uranium (U)         99.7         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           Zinc (Zn)         92.2         %         80-120         15-NOV-19           WG3219187-1         MB           Antimony (Sb)         <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |        |           |         |           |       |     | 80-120 | 15-NOV-19 |
| Thallium (TI)         97.3         %         80-120         15-NOV-19           Uranium (U)         99.7         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           Zinc (Zn)         92.2         %         80-120         15-NOV-19           WG3219187-1 MB           Antimony (Sb)         <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                   |        |           |         |           |       |     | 80-120 | 15-NOV-19 |
| Uranium (U)         99.7         %         80-120         15-NOV-19           Vanadium (V)         98.3         %         80-120         15-NOV-19           Zinc (Zn)         92.2         %         80-120         15-NOV-19           WG3219187-1         MB         MB         VANION STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON STANDON                                                                                                                                                                                                                                              |                   |        |           |         |           |       |     | 80-120 | 15-NOV-19 |
| Vanadium (V)         98.3         %         80-120         15-NOV-19           Zinc (Zn)         92.2         %         80-120         15-NOV-19           WG3219187-1 Antimony (Sb)         MB         Value of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the con                                                                                                                                                                      |                   |        |           |         |           |       |     | 80-120 | 15-NOV-19 |
| WG3219187-1         MB           Antimony (Sb)         <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |        |           | 99.7    |           |       |     | 80-120 | 15-NOV-19 |
| WG3219187-1         MB           Antimony (Sb)         <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Vanadium (V)      |        |           | 98.3    |           |       |     | 80-120 | 15-NOV-19 |
| Antimony (Sb)       <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Zinc (Zn)         |        |           | 92.2    |           | %     |     | 80-120 | 15-NOV-19 |
| Arsenic (As)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                   |        |           |         |           |       |     | 0.4    |           |
| Barium (Ba)       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |        |           |         |           |       |     |        |           |
| Beryllium (Be)       <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                   |        |           |         |           |       |     |        |           |
| Boron (B)       <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                   |        |           |         |           |       |     |        |           |
| Cadmium (Cd)       <0.020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |        |           |         |           |       |     |        |           |
| Chromium (Cr)       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |        |           |         |           |       |     |        |           |
| Cobalt (Co)       <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |        |           |         |           |       |     |        | 15-NOV-19 |
| Copper (Cu)       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ` ,               |        |           |         |           |       |     |        | 15-NOV-19 |
| Lead (Pb)       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |        |           |         |           |       |     |        | 15-NOV-19 |
| Molybdenum (Mo)       <0.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                   |        |           |         |           |       |     |        | 15-NOV-19 |
| Nickel (Ni)       <0.50       mg/kg       0.5       15-NOV-19         Selenium (Se)       <0.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                   |        |           | <0.50   |           | mg/kg |     |        | 15-NOV-19 |
| Selenium (Se)       <0.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                   |        |           | <0.10   |           | mg/kg |     |        | 15-NOV-19 |
| Silver (Ag)       <0.10       mg/kg       0.1       15-NOV-19         Thallium (TI)       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Nickel (Ni)       |        |           | <0.50   |           | mg/kg |     | 0.5    | 15-NOV-19 |
| Thallium (TI) <0.050 mg/kg 0.05 15-NOV-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Selenium (Se)     |        |           | <0.20   |           | mg/kg |     | 0.2    | 15-NOV-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Silver (Ag)       |        |           | <0.10   |           | mg/kg |     | 0.1    | 15-NOV-19 |
| Uranium (U) <0.050 mg/kg 0.05 15-NOV-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Thallium (TI)     |        |           | < 0.050 |           | mg/kg |     | 0.05   | 15-NOV-19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Uranium (U)       |        |           | < 0.050 |           | mg/kg |     | 0.05   | 15-NOV-19 |



Workorder: L2381422 Report Date: 25-NOV-19 Page 4 of 8

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                | Matrix | Reference   | Result      | Qualifier | Units | RPD | Limit  | Analyzed               |
|-------------------------------------|--------|-------------|-------------|-----------|-------|-----|--------|------------------------|
| MET-200.2-CCMS-WT                   | Soil   |             |             |           |       |     |        |                        |
| Batch R4909398                      |        |             |             |           |       |     |        |                        |
| <b>WG3219187-1 MB</b> Vanadium (V)  |        |             | <0.20       |           | mg/kg |     | 0.2    | 45 NOV 40              |
| Zinc (Zn)                           |        |             | <2.0        |           | mg/kg |     | 2      | 15-NOV-19<br>15-NOV-19 |
|                                     |        |             | <b>\2.0</b> |           | mg/kg |     | _      | 13-110-19              |
| MOISTURE-WT                         | Soil   |             |             |           |       |     |        |                        |
| Batch R4906065<br>WG3217578-3 DUP   |        | L2380378-35 |             |           |       |     |        |                        |
| % Moisture                          |        | 18.2        | 18.2        |           | %     | 0.2 | 20     | 14-NOV-19              |
| WG3217578-2 LCS                     |        |             |             |           |       |     |        |                        |
| % Moisture                          |        |             | 100.7       |           | %     |     | 90-110 | 14-NOV-19              |
| <b>WG3217578-1 MB</b> % Moisture    |        |             | <0.25       |           | %     |     | 0.25   | 44 NOV 40              |
|                                     |        |             | <0.25       |           | 70    |     | 0.25   | 14-NOV-19              |
| Batch R4906258<br>WG3217868-3 DUP   |        | L2381720-1  |             |           |       |     |        |                        |
| % Moisture                          |        | 13.0        | 12.5        |           | %     | 4.2 | 20     | 14-NOV-19              |
| WG3217868-2 LCS                     |        |             |             |           |       |     |        |                        |
| % Moisture                          |        |             | 101.0       |           | %     |     | 90-110 | 14-NOV-19              |
| <b>WG3217868-1 MB</b><br>% Moisture |        |             | -O 2F       |           | %     |     | 0.25   | 44 NOV 40              |
| % Moisture                          |        |             | <0.25       |           | 70    |     | 0.25   | 14-NOV-19              |
| PAH-511-WT                          | Soil   |             |             |           |       |     |        |                        |
| Batch R4915792<br>WG3217782-3 DUP   |        | WG3217782-5 |             |           |       |     |        |                        |
| 1-Methylnaphthalene                 |        | <0.030      | <0.030      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| 2-Methylnaphthalene                 |        | <0.030      | <0.030      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Acenaphthene                        |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Acenaphthylene                      |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Anthracene                          |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Benzo(a)anthracene                  |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Benzo(a)pyrene                      |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Benzo(b)fluoranthene                |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Benzo(g,h,i)perylene                |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Benzo(k)fluoranthene                |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Chrysene                            |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Dibenzo(ah)anthracene               |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Fluoranthene                        |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| Fluorene                            |        | <0.050      | <0.050      | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19              |
| i                                   |        |             |             |           |       |     |        |                        |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| PAH-511-WT   Soil   Batch   R4915792   WG3217782-5   Indeno(1,2,3-cd)pyrene   <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Test                   | Matrix | Reference | Result  | Qualifier | Units | RPD  | Limit  | Analyzed   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|--------|-----------|---------|-----------|-------|------|--------|------------|
| MG3217782-3 DUP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | PAH-511-WT             | Soil   |           |         |           |       |      |        |            |
| Naphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | WG3217782-3 DUP        |        |           | <0.050  | RPD-NA    | ua/a  | N/A  | 40     | 19-NO\/-19 |
| Phenanthrene         <0.046         <0.046         RPD-NA         ug/g         N/A         40         19-NOV-19           Pyrene         <0.050         <0.050         RPD-NA         ug/g         N/A         40         19-NOV-19           WG3217782-2 LCS            50-140         19-NOV-19           1-Methy/naphthalene         92.6         %         50-140         19-NOV-19           2-Methy/naphthalene         92.3         %         50-140         19-NOV-19           Acenaphthylene         92.0         %         50-140         19-NOV-19           Acenaphthylene         92.0         %         50-140         19-NOV-19           Acenaphthylene         93.8         %         50-140         19-NOV-19           Acenaphthylene         93.8         %         50-140         19-NOV-19           Benzo(a)anthracene         86.6         %         50-140         19-NOV-19           Benzo(b)fluoranthene         83.0         %         50-140         19-NOV-19           Benzo(b)fluoranthene         97.5         %         50-140         19-NOV-19           Benzo(b)fluoranthene         97.5         %         50-140         19-NOV-19                                                                                                                                                             |                        |        |           |         |           |       |      |        |            |
| Pyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | •                      |        |           |         |           |       |      |        |            |
| WG3217782-2 LCS         1-Methylnaphthalene         92.6         %         50-140         19-NOV-19           2-Methylnaphthalene         87.3         %         50-140         19-NOV-19           Acenaphthene         92.3         %         50-140         19-NOV-19           Acenaphthylene         92.0         %         50-140         19-NOV-19           Anthracene         93.8         %         50-140         19-NOV-19           Benzo(a)aphrene         86.6         %         50-140         19-NOV-19           Benzo(a)pyrene         90.4         %         50-140         19-NOV-19           Benzo(gh,li)perylene         83.0         %         50-140         19-NOV-19           Benzo(gh,li)perylene         83.2         %         50-140         19-NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19-NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19-NOV-19           Chrysene         103.7         %         50-140         19-NOV-19           Benzo(k)fluoranthene         87.1         %         50-140         19-NOV-19           Piloranthene         90.5         %         50-140         19-NOV                                                                                                                    |                        |        |           |         |           |       |      |        |            |
| 2-MetryInaphthalene         87.3         %         50-140         19-NOV-19           Acenaphthene         92.3         %         50-140         19-NOV-19           Acenaphthylene         92.0         %         50-140         19-NOV-19           Anthracene         93.8         %         50-140         19-NOV-19           Benzo(a)anthracene         86.6         %         50-140         19-NOV-19           Benzo(b)fluoranthene         83.0         %         50-140         19-NOV-19           Benzo(b)fluoranthene         83.2         %         50-140         19-NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19-NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19-NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19-NOV-19           Chrysene         103.7         %         50-140         19-NOV-19           Dibenzo(a)anthracene         87.1         %         50-140         19-NOV-19           Fluoranthene         90.8         %         50-140         19-NOV-19           Fluorene         87.6         %         50-140         19-NOV-19                                                                                                                                           | WG3217782-2 LCS        |        |           |         | THE TWY   |       | 1471 |        |            |
| Acenaphthene         92.3         %         50-140         19-NOV-19           Acenaphthylene         92.0         %         50-140         19-NOV-19           Anthracene         93.8         %         50-140         19-NOV-19           Benzo(a)nthracene         86.6         %         50-140         19-NOV-19           Benzo(a)pyrene         90.4         %         50-140         19-NOV-19           Benzo(g)filtuoranthene         83.0         %         50-140         19-NOV-19           Benzo(g)hilperylene         83.2         %         50-140         19-NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19-NOV-19           Chrysene         103.7         %         50-140         19-NOV-19           Chrysene         103.7         %         50-140         19-NOV-19           Piluoranthene         87.1         %         50-140         19-NOV-19           Fluoranthene         87.6         %         50-140         19-NOV-19           Indeno(1,2,3-cd)pyrene         79.1         %         50-140         19-NOV-19           Naphthalene         92.0         %         50-140         19-NOV-19           Pyrene                                                                                                                                            |                        |        |           | 87.3    |           |       |      |        |            |
| Acenaphthylene         92.0         %         50.140         19-NOV.19           Anthracene         93.8         %         50.140         19-NOV.19           Benzo(a)anthracene         86.6         %         50.140         19-NOV.19           Benzo(b)fluoranthene         83.0         %         50.140         19-NOV.19           Benzo(g,h,i)perylene         83.2         %         50.140         19-NOV.19           Benzo(K)fluoranthene         97.5         %         50.140         19-NOV.19           Chrysene         103.7         %         50.140         19-NOV.19           Chrysene         103.7         %         50.140         19-NOV.19           Dibenzo(ah)anthracene         87.1         %         50.140         19-NOV.19           Fluoranthene         90.8         %         50.140         19-NOV.19           Fluorene         87.6         %         50.140         19-NOV.19           Indeno(1,2,3-cd)pyrene         79.1         %         50.140         19-NOV.19           Naphthalene         92.0         %         50.140         19-NOV.19           Pyrene         90.5         %         50.140         19-NOV.19           WG3217782-1                                                                                                                                           | Acenaphthene           |        |           | 92.3    |           | %     |      | 50-140 |            |
| Benzo(a)anthracene         86.6         %         50.140         19·NOV-19           Benzo(a)pyrene         90.4         %         50.140         19·NOV-19           Benzo(b)fluoranthene         83.0         %         50-140         19·NOV-19           Benzo(k)fluoranthene         83.2         %         50-140         19·NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19·NOV-19           Chrysene         103.7         %         50-140         19·NOV-19           Dibenzo(ah)anthracene         87.1         %         50-140         19·NOV-19           Pituoranthene         90.8         %         50-140         19·NOV-19           Fluorene         87.6         %         50-140         19·NOV-19           Fluorene         87.6         %         50-140         19·NOV-19           Naphthalene         92.0         %         50-140         19·NOV-19           Naphthalene         90.4         %         50-140         19·NOV-19           Pyene         90.5         %         50-140         19·NOV-19           WG3217782-1         MB         1         1         9·NOV-19         19·NOV-19           Acenaphth                                                                                                                                              | Acenaphthylene         |        |           | 92.0    |           | %     |      | 50-140 |            |
| Benzo(a)pyrene         90.4         %         50-140         19-NOV-19           Benzo(b)fluoranthene         83.0         %         50-140         19-NOV-19           Benzo(g,h,i)perylene         83.2         %         50-140         19-NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19-NOV-19           Chrysene         103.7         %         50-140         19-NOV-19           Dibenzo(ah)anthracene         87.1         %         50-140         19-NOV-19           Fluoranthene         90.8         %         50-140         19-NOV-19           Fluorene         87.6         %         50-140         19-NOV-19           Fluorene         79.1         %         50-140         19-NOV-19           Naphthalene         92.0         %         50-140         19-NOV-19           Naphthalene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                   | Anthracene             |        |           | 93.8    |           | %     |      | 50-140 | 19-NOV-19  |
| Benzo(b)fluoranthene         83.0         %         50-140         19-NOV-19           Benzo(g,h,i)perylene         83.2         %         50-140         19-NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19-NOV-19           Chrysene         103.7         %         50-140         19-NOV-19           Dibenzo(ah)anthracene         87.1         %         50-140         19-NOV-19           Fluoranthene         90.8         %         50-140         19-NOV-19           Fluorene         87.6         %         50-140         19-NOV-19           Indeno(1,2,3-cd)pyrene         79.1         %         50-140         19-NOV-19           Naphthalene         92.0         %         50-140         19-NOV-19           Phenanthrene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1         19-NOV-19         19-NOV-19           WG4217782-1         MB         1         19-NOV-19         19-NOV-19         2-Methylnaphthalene         <0.030                                                                                                                                                                                                        | Benzo(a)anthracene     |        |           | 86.6    |           | %     |      | 50-140 | 19-NOV-19  |
| Benzo(g,h,i)perylene         83.2         %         50-140         19-NOV-19           Benzo(k)fluoranthene         97.5         %         50-140         19-NOV-19           Chrysene         103.7         %         50-140         19-NOV-19           Dibenzo(ah)anthracene         87.1         %         50-140         19-NOV-19           Fluoranthene         90.8         %         50-140         19-NOV-19           Fluorene         87.6         %         50-140         19-NOV-19           Indeno(1,2,3-cd)pyrene         79.1         %         50-140         19-NOV-19           Naphthalene         92.0         %         50-140         19-NOV-19           Phenanthrene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                            | Benzo(a)pyrene         |        |           | 90.4    |           | %     |      | 50-140 | 19-NOV-19  |
| Benzo(k)fluoranthene         97.5         %         50.140         19.NOV-19           Chrysene         103.7         %         50-140         19.NOV-19           Dibenzo(ah)anthracene         87.1         %         50-140         19.NOV-19           Fluoranthene         90.8         %         50-140         19.NOV-19           Fluorene         87.6         %         50-140         19.NOV-19           Indeno(1,2,3-cd)pyrene         79.1         %         50-140         19.NOV-19           Naphthalene         92.0         %         50-140         19.NOV-19           Phenanthrene         90.4         %         50-140         19.NOV-19           Pyrene         90.5         %         50-140         19.NOV-19           Pyrene         90.5         %         50-140         19.NOV-19           WG3217782-1         MB         1.MB         1.MB <td>Benzo(b)fluoranthene</td> <td></td> <td></td> <td>83.0</td> <td></td> <td>%</td> <td></td> <td>50-140</td> <td>19-NOV-19</td> | Benzo(b)fluoranthene   |        |           | 83.0    |           | %     |      | 50-140 | 19-NOV-19  |
| Chrysene         103.7         %         50-140         19-NOV-19           Dibenzo(ah)anthracene         87.1         %         50-140         19-NOV-19           Fluoranthene         90.8         %         50-140         19-NOV-19           Fluorene         87.6         %         50-140         19-NOV-19           Indeno(1,2,3-cd)pyrene         79.1         %         50-140         19-NOV-19           Naphthalene         92.0         %         50-140         19-NOV-19           Phenanthrene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Benzo(g,h,i)perylene   |        |           | 83.2    |           | %     |      | 50-140 | 19-NOV-19  |
| Dibenzo(ah)anthracene         87.1         %         50-140         19-NOV-19           Fluoranthene         90.8         %         50-140         19-NOV-19           Fluorene         87.6         %         50-140         19-NOV-19           Indeno(1,2,3-cd)pyrene         79.1         %         50-140         19-NOV-19           Naphthalene         92.0         %         50-140         19-NOV-19           Phenanthrene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Benzo(k)fluoranthene   |        |           | 97.5    |           | %     |      | 50-140 | 19-NOV-19  |
| Fluoranthene         90.8         %         50-140         19-NOV-19           Fluorene         87.6         %         50-140         19-NOV-19           Indeno(1,2,3-cd)pyrene         79.1         %         50-140         19-NOV-19           Naphthalene         92.0         %         50-140         19-NOV-19           Phenanthrene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Chrysene               |        |           | 103.7   |           | %     |      | 50-140 | 19-NOV-19  |
| Fluorene         87.6         %         50-140         19-NOV-19           Indeno(1,2,3-cd)pyrene         79.1         %         50-140         19-NOV-19           Naphthalene         92.0         %         50-140         19-NOV-19           Phenanthrene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Dibenzo(ah)anthracene  |        |           | 87.1    |           | %     |      | 50-140 | 19-NOV-19  |
| Indeno(1,2,3-cd)pyrene         79.1         %         50-140         19-NOV-19           Naphthalene         92.0         %         50-140         19-NOV-19           Phenanthrene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Fluoranthene           |        |           | 90.8    |           | %     |      | 50-140 | 19-NOV-19  |
| Naphthalene         92.0         %         50-140         19-NOV-19           Phenanthrene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Fluorene               |        |           | 87.6    |           | %     |      | 50-140 | 19-NOV-19  |
| Phenanthrene         90.4         %         50-140         19-NOV-19           Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         MB         1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Indeno(1,2,3-cd)pyrene |        |           | 79.1    |           | %     |      | 50-140 | 19-NOV-19  |
| Pyrene         90.5         %         50-140         19-NOV-19           WG3217782-1         MB         1-Methylnaphthalene         <0.030         ug/g         0.03         19-NOV-19           2-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Naphthalene            |        |           | 92.0    |           | %     |      | 50-140 | 19-NOV-19  |
| WG3217782-1         MB           1-Methylnaphthalene         <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Phenanthrene           |        |           | 90.4    |           | %     |      | 50-140 | 19-NOV-19  |
| 1-Methylnaphthalene       <0.030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Pyrene                 |        |           | 90.5    |           | %     |      | 50-140 | 19-NOV-19  |
| Acenaphthene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |        |           | <0.030  |           | ug/g  |      | 0.03   | 19-NOV-19  |
| Acenaphthylene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2-Methylnaphthalene    |        |           | <0.030  |           | ug/g  |      | 0.03   | 19-NOV-19  |
| Anthracene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Acenaphthene           |        |           | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19  |
| Benzo(a)anthracene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Acenaphthylene         |        |           | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19  |
| Benzo(a)pyrene       <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Anthracene             |        |           | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19  |
| Benzo(b)fluoranthene         <0.050         ug/g         0.05         19-NOV-19           Benzo(g,h,i)perylene         <0.050                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Benzo(a)anthracene     |        |           | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19  |
| Benzo(g,h,i)perylene <0.050 ug/g 0.05 19-NOV-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Benzo(a)pyrene         |        |           | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Benzo(b)fluoranthene   |        |           | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19  |
| Benzo(k)fluoranthene <0.050 ug/g 0.05 19-NOV-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Benzo(g,h,i)perylene   |        |           | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Benzo(k)fluoranthene   |        |           | < 0.050 |           | ug/g  |      | 0.05   | 19-NOV-19  |



Workorder: L2381422 Report Date: 25-NOV-19 Page 6 of 8

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                       | Matrix | Reference   | Result  | Qualifier | Units | RPD  | Limit  | Analyzed  |
|----------------------------|--------|-------------|---------|-----------|-------|------|--------|-----------|
| PAH-511-WT                 | Soil   |             |         |           |       |      |        |           |
| Batch R4915792             |        |             |         |           |       |      |        |           |
| WG3217782-1 MB<br>Chrysene |        |             | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19 |
| Dibenzo(ah)anthracene      |        |             | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19 |
| Fluoranthene               |        |             | < 0.050 |           | ug/g  |      | 0.05   | 19-NOV-19 |
| Fluorene                   |        |             | < 0.050 |           | ug/g  |      | 0.05   | 19-NOV-19 |
| Indeno(1,2,3-cd)pyrene     |        |             | < 0.050 |           | ug/g  |      | 0.05   | 19-NOV-19 |
| Naphthalene                |        |             | <0.013  |           | ug/g  |      | 0.013  | 19-NOV-19 |
| Phenanthrene               |        |             | <0.046  |           | ug/g  |      | 0.046  | 19-NOV-19 |
| Pyrene                     |        |             | <0.050  |           | ug/g  |      | 0.05   | 19-NOV-19 |
| Surrogate: 2-Fluorobiphe   | enyl   |             | 83.5    |           | %     |      | 50-140 | 19-NOV-19 |
| Surrogate: p-Terphenyl     | d14    |             | 71.6    |           | %     |      | 50-140 | 19-NOV-19 |
| WG3217782-4 MS             |        | WG3217782-5 |         |           |       |      |        |           |
| 1-Methylnaphthalene        |        |             | 89.3    |           | %     |      | 50-140 | 19-NOV-19 |
| 2-Methylnaphthalene        |        |             | 83.6    |           | %     |      | 50-140 | 19-NOV-19 |
| Acenaphthene               |        |             | 88.7    |           | %     |      | 50-140 | 19-NOV-19 |
| Acenaphthylene             |        |             | 87.8    |           | %     |      | 50-140 | 19-NOV-19 |
| Anthracene                 |        |             | 83.5    |           | %     |      | 50-140 | 19-NOV-19 |
| Benzo(a)anthracene         |        |             | 84.8    |           | %     |      | 50-140 | 19-NOV-19 |
| Benzo(a)pyrene             |        |             | 86.5    |           | %     |      | 50-140 | 19-NOV-19 |
| Benzo(b)fluoranthene       |        |             | 82.1    |           | %     |      | 50-140 | 19-NOV-19 |
| Benzo(g,h,i)perylene       |        |             | 82.5    |           | %     |      | 50-140 | 19-NOV-19 |
| Benzo(k)fluoranthene       |        |             | 91.2    |           | %     |      | 50-140 | 19-NOV-19 |
| Chrysene                   |        |             | 106.3   |           | %     |      | 50-140 | 19-NOV-19 |
| Dibenzo(ah)anthracene      |        |             | 87.2    |           | %     |      | 50-140 | 19-NOV-19 |
| Fluoranthene               |        |             | 87.2    |           | %     |      | 50-140 | 19-NOV-19 |
| Fluorene                   |        |             | 84.3    |           | %     |      | 50-140 | 19-NOV-19 |
| Indeno(1,2,3-cd)pyrene     |        |             | 83.4    |           | %     |      | 50-140 | 19-NOV-19 |
| Naphthalene                |        |             | 88.5    |           | %     |      | 50-140 | 19-NOV-19 |
| Phenanthrene               |        |             | 86.6    |           | %     |      | 50-140 | 19-NOV-19 |
| Pyrene                     |        |             | 87.1    |           | %     |      | 50-140 | 19-NOV-19 |
| PCB-511-WT                 | Soil   |             |         |           |       |      |        |           |
| Batch R4915811             |        |             |         |           |       |      |        |           |
| WG3217782-3 DUP            |        | WG3217782-5 | -0.010  | DDD 114   | ua/a  | NI/A | 40     | 40 NOV 40 |
| Aroclor 1242               |        | <0.010      | <0.010  | RPD-NA    | ug/g  | N/A  | 40     | 19-NOV-19 |
| Aroclor 1248               |        | <0.010      | <0.010  | RPD-NA    | ug/g  | N/A  | 40     | 19-NOV-19 |



Workorder: L2381422 Report Date: 25-NOV-19 Page 7 of 8

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                               |         | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------------------|---------|--------|-------------|--------|-----------|-------|-----|--------|-----------|
| PCB-511-WT                         |         | Soil   |             |        |           |       |     |        |           |
| Batch R4                           | 915811  |        |             |        |           |       |     |        |           |
| WG3217782-3                        | DUP     |        | WG3217782-5 |        |           |       |     |        |           |
| Aroclor 1254                       |         |        | <0.010      | <0.010 | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19 |
| Aroclor 1260                       |         |        | <0.010      | <0.010 | RPD-NA    | ug/g  | N/A | 40     | 19-NOV-19 |
| <b>WG3217782-2</b><br>Aroclor 1242 | LCS     |        |             | 103.9  |           | %     |     | 60-140 | 19-NOV-19 |
| Aroclor 1248                       |         |        |             | 95.0   |           | %     |     |        |           |
|                                    |         |        |             |        |           |       |     | 60-140 | 19-NOV-19 |
| Aroclor 1254                       |         |        |             | 107.0  |           | %     |     | 60-140 | 19-NOV-19 |
| Aroclor 1260                       |         |        |             | 115.9  |           | %     |     | 60-140 | 19-NOV-19 |
| WG3217782-1                        | MB      |        |             |        |           |       |     |        |           |
| Aroclor 1242                       |         |        |             | <0.010 |           | ug/g  |     | 0.01   | 19-NOV-19 |
| Aroclor 1248                       |         |        |             | <0.010 |           | ug/g  |     | 0.01   | 19-NOV-19 |
| Aroclor 1254                       |         |        |             | <0.010 |           | ug/g  |     | 0.01   | 19-NOV-19 |
| Aroclor 1260                       |         |        |             | <0.010 |           | ug/g  |     | 0.01   | 19-NOV-19 |
| Surrogate: d14-                    | Terphen | yl     |             | 76.9   |           | %     |     | 60-140 | 19-NOV-19 |
| WG3217782-4                        | MS      |        | WG3217782-5 |        |           |       |     |        |           |
| Aroclor 1242                       |         |        |             | 101.0  |           | %     |     | 60-140 | 19-NOV-19 |
| Aroclor 1254                       |         |        |             | 101.3  |           | %     |     | 60-140 | 19-NOV-19 |
| Aroclor 1260                       |         |        |             | 112.4  |           | %     |     | 60-140 | 19-NOV-19 |
|                                    |         |        |             |        |           |       |     |        |           |

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Workorder: L2381422 Report Date: 25-NOV-19

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

#### 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.                 |
| 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.

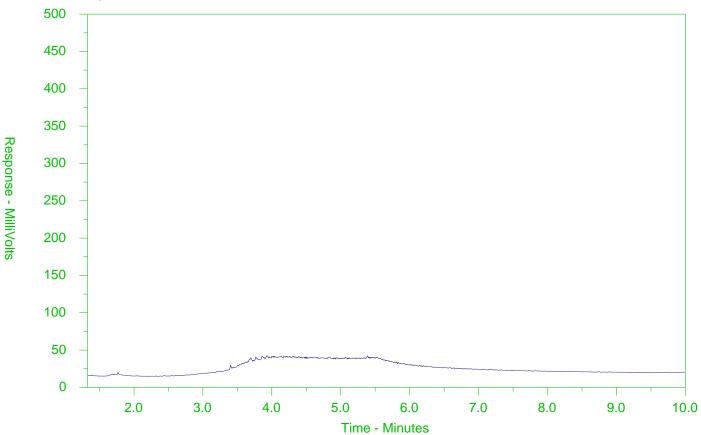
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide 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: L2381422-2 Client Sample ID: BH207-1.75-2.25



| <b>←</b> -F2- | →-                                       | —F3—→←—F4— | <b>&gt;</b> |  |  |  |  |
|---------------|------------------------------------------|------------|-------------|--|--|--|--|
| nC10          | nC16                                     | nC34       | nC50        |  |  |  |  |
| 174°C         | 287°C                                    | 481°C      | 575°C       |  |  |  |  |
| 346°F         | 549°F                                    | 898°F      | 1067°F      |  |  |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease → |            |             |  |  |  |  |
| <b>←</b>      | ← 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.

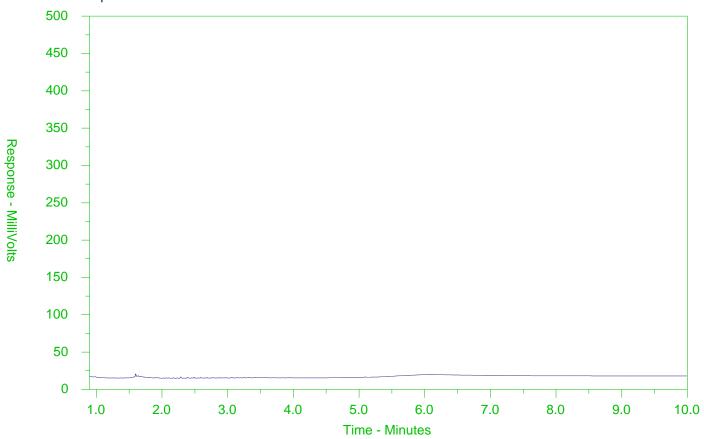
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.

### CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2381422-3 Client Sample ID: BH207-2.5-3



| <b>←</b> -F2- | →-                                       | —F3—→←—F4— | <b>&gt;</b> |  |  |  |  |
|---------------|------------------------------------------|------------|-------------|--|--|--|--|
| nC10          | nC16                                     | nC34       | nC50        |  |  |  |  |
| 174°C         | 287°C                                    | 481°C      | 575°C       |  |  |  |  |
| 346°F         | 549°F                                    | 898°F      | 1067°F      |  |  |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease → |            |             |  |  |  |  |
| <b>←</b>      | ← 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.

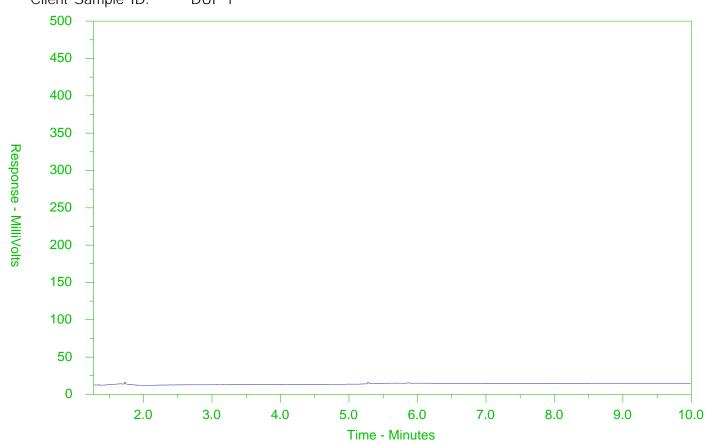
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.

### CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2381422-17 Client Sample ID: DUP 1



| <b>←</b> -F2-                            | →←                   | —F3—→ <b>←</b> —F4— | <b>&gt;</b> |  |  |  |  |  |
|------------------------------------------|----------------------|---------------------|-------------|--|--|--|--|--|
| nC10                                     | nC16                 | nC34                | nC50        |  |  |  |  |  |
| 174°C                                    | 287°C                | 481°C               | 575°C       |  |  |  |  |  |
| 346°F                                    | 549°F                | 898°F               | 1067⁰F      |  |  |  |  |  |
| Gasoline → Motor Oils/Lube Oils/Grease → |                      |                     |             |  |  |  |  |  |
| <b>←</b>                                 | ← 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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.

# Environmental

## Chain of Custody (COC) / Analytical Request Form



COC Number: 17 - 723247

| (ALS)                          | Environmental                                               | Canada Toll Free: 1 800                 | 668 9878                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                      | .2001422-0       | OFC                                                |                  |                                                                                                       |                                                  |                      |                                                  | 1                                                | 0                |                                                  |                |             |           |
|--------------------------------|-------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------|----------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------|--------------------------------------------------|--------------------------------------------------|------------------|--------------------------------------------------|----------------|-------------|-----------|
| Raport To                      | www.alsqlobal.com  Contact and company name below will appe | ear on the finel report                 | Report Forma                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | t / Distribution     |                  |                                                    | Merce.           |                                                                                                       | <br>aton                                         | y - Contact yo       | aur AM to co                                     | nfirm at Et                                      | LP TATe (surc    | harges may                                       | apply)         | )           | $\neg$    |
| Company:                       | Jacobs                                                      | Select Repor                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      | DO (DIGITAL)     |                                                    | Rea              | ular (R)                                                                                              | $\overline{}$                                    |                      |                                                  |                                                  | no sumbarges :   |                                                  |                |             | ヿ         |
| Contact                        | Michael Shing                                               |                                         | ol (QC) Report with Ref                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | r-`                  |                  | Ĩ.                                                 |                  | [P4-20%]                                                                                              |                                                  | <del></del>          | usiness da                                       |                                                  |                  |                                                  |                |             | Ħ         |
| Phone:                         | 269 931 1339                                                | 191-579 3500 (Ompare                    | Compare Results to Criteria on Report - provide details below if sox checked                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                  |                                                    |                  | Same Day, Weekend or Statutory holiday [E2-200%]                                                      |                                                  |                      |                                                  |                                                  |                  | nn%.                                             |                | _1          |           |
|                                | Company address below will appear on the fina               |                                         | ution. 💢 EHALL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | MAJL [               | FAX              | 2 day [P2-50%] (Laboratory opening fees may apply) |                  |                                                                                                       |                                                  |                      |                                                  |                                                  |                  | ( J                                              |                |             |           |
| Street:                        | 12 Victoria St. S.                                          | Swite 300 Email 1 or Fa                 | Email tor Fax as perquate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |                  |                                                    |                  |                                                                                                       |                                                  |                      |                                                  |                                                  |                  |                                                  |                |             |           |
| City/Province:                 | Kitchener, av                                               | Email 2 M2                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |                  |                                                    |                  | For facilis this can not be performed according to the service level selected, you will be consected. |                                                  |                      |                                                  |                                                  |                  |                                                  |                |             | _         |
| Postal Code:                   | N2G 449                                                     | Email3 ea                               | i taves@                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12000                | <u>, (Ce)(V)</u> | Analysia Raquest                                   |                  |                                                                                                       |                                                  |                      |                                                  |                                                  |                  |                                                  | _              |             |           |
| Invoice To                     | Same as Report To                                           | _ NO                                    | Invoice Distribution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |                  |                                                    |                  | Indicate Filtered (F) Preserved (P) or Filtered and Preserved (FIP) tellow                            |                                                  |                      |                                                  |                                                  |                  |                                                  | 1              | <b>å</b>    |           |
|                                | Copy of Invoice with Report X YES                           | ,                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | EMAIL 🔲 MAIL 🗀       |                  |                                                    |                  |                                                                                                       |                                                  |                      |                                                  |                                                  |                  | l f                                              | ě              |             |           |
| Company.                       | 7                                                           | Ema∉ 1 or Fa                            | Email of Fax Accounts Payable Email 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                  |                                                    |                  | 1                                                                                                     |                                                  |                      |                                                  |                                                  |                  | $\Box$                                           | 1              | further     |           |
| Contact                        |                                                             | Email 2                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |                  |                                                    |                  |                                                                                                       |                                                  |                      | [                                                | !                                                |                  |                                                  |                |             |           |
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| ALS Account #                  | 1 Quots # 0729810                                           | AFE/Cost Conte                          | : <u> </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PC#                  |                  |                                                    | <b>.</b> .       |                                                                                                       | ] [                                              | 1 1                  | 1 1                                              |                                                  |                  |                                                  | - 13           | <u>ة</u>    |           |
| Job #:                         | •                                                           | Majorifénor Cod                         | 9.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Routing Code:        |                  | 3                                                  | 4                | -                                                                                                     |                                                  |                      |                                                  |                                                  |                  |                                                  |                | ĝ   '       | 2         |
| PO/AFÉ.                        |                                                             | Requisitioner                           | !                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                      |                  | آة ا                                               | 4-               |                                                                                                       | ]                                                |                      |                                                  |                                                  |                  |                                                  | ا ہ            | 윤   ]       | CONTAINER |
| LSD:                           |                                                             | Location:                               | <b></b> -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |                  | ı~ı                                                | 1                | -                                                                                                     |                                                  |                      |                                                  |                                                  | 1 1              | 1 1                                              | HOLD           | į   '       | ξ         |
| ALS Lab Wo                     | ork Order # (tab use only): 123814                          | ALS Comac                               | E, Haven                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Samptor: V           | Peturs           | Metals                                             |                  | \$ \<br><b>3</b>                                                                                      |                                                  |                      |                                                  |                                                  | 11               |                                                  | 8   j          | 분<br> <br>  | t i       |
| ALS Sample #<br>(lab use only) | Sample identification                                       |                                         | Dete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Time                 | Sample Type      | اچا                                                | #                | 7 4±                                                                                                  |                                                  |                      |                                                  |                                                  |                  |                                                  | SAMPLES        | Sample      | NUMBER    |
| (120 000 0105)                 | (This description will a                                    | appear on the report)                   | (dd-mmm-yy)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | (hh:mm)              |                  | -                                                  |                  |                                                                                                       | + +                                              | + +                  | <del> </del>                                     | +                                                | +                | +                                                | <u> </u>       | <b>*+</b> - | 퓍         |
| <b></b>                        | BH20B-3-3.5                                                 |                                         | 12-11-17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 10:45                | Soil             |                                                    |                  | X _                                                                                                   | <del>  </del>                                    | +-                   | +                                                |                                                  | +                | ┷-╂                                              | +              | +           | _         |
| 9                              | BH207-1.75-2.2                                              | 5                                       | 12-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 14:30                | Soil             |                                                    | X                |                                                                                                       |                                                  |                      |                                                  | $\bot\bot$                                       | $\bot$           | +                                                | 丄              | $\bot$      |           |
| 3                              | BH207-215-3                                                 |                                         | 12-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 14.45                | Spil             |                                                    | X                |                                                                                                       |                                                  |                      |                                                  | i                                                |                  |                                                  |                |             |           |
| Й                              | BH209-6.4-6.75                                              | <del></del>                             | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8,45                 | 201              | X                                                  |                  | X                                                                                                     |                                                  |                      |                                                  |                                                  | T - "            |                                                  |                | Т           |           |
| ζ                              | BH209N - 0,4-0,7                                            |                                         | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8.46                 | Sej (            |                                                    |                  | <u> </u>                                                                                              |                                                  |                      |                                                  | 11                                               | <b></b>          | 7                                                | ΧĪ             | 十           | 7         |
| (2                             | BH709W-04-017                                               |                                         | 13 11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8:41                 | Soil             |                                                    |                  |                                                                                                       |                                                  | Ť                    |                                                  | 11                                               |                  |                                                  | ΧT             | Т           | $\exists$ |
|                                | BH2098-04-0                                                 |                                         | 13-4-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 8.48                 | Soil             |                                                    |                  |                                                                                                       |                                                  |                      |                                                  | 1 1"                                             |                  | 一下                                               | ΧŢ             | $\top$      | $\neg$    |
| Ġ                              | BH209- 2-214                                                | 19                                      | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8 52                 | Soil             | X                                                  | $\vdash$         | ٦×                                                                                                    |                                                  | + + -                | <del>                                     </del> | 1 1                                              |                  | <b>→ </b>                                        | $\top$         | 十           | ヿ         |
| <del>- }</del>                 | BH209N-2-2                                                  | ب                                       | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                      |                  |                                                    | <del>     </del> | <del> -</del> -                                                                                       | <del>  </del>                                    | ++                   | <del>├─┣</del>                                   | + +                                              | ++               | <del>                                     </del> | त्रो           | 十           | $\dashv$  |
|                                |                                                             |                                         | <del> </del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 8.5%                 | 8251             | H                                                  | -                | <del> -</del>                                                                                         | ╁╼┿╼                                             | +                    | +                                                | +                                                | ++               |                                                  | _              | ╌╆╴         | $\dashv$  |
| 10                             | BH209W-2-2.                                                 |                                         | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8 51                 | Siil             |                                                    | $\vdash$         |                                                                                                       | <del>                                     </del> | <del>  -   -  </del> | + +                                              | +                                                |                  |                                                  | ХŢ             | ─┾          | $\dashv$  |
| - 1                            | BH 2095 -2-2                                                | <u> </u>                                | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | \$ 58                | _ ابقی           | Щ                                                  | $\sqcup$         |                                                                                                       | $oxed{oxed}$                                     | $\perp \perp$        | $\perp \perp$                                    | <del>                                     </del> | -                | <b>++</b>                                        | 셏              | $\dashv$    | 4         |
|                                | 18H209 - 4-4.4                                              |                                         | <u> 13-11-19</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 9:05                 | Soil             |                                                    |                  |                                                                                                       |                                                  |                      |                                                  |                                                  |                  | للل                                              | ${\sf XL}$     | <u>L</u>    | _         |
| Drinkh                         | ng Water (DW) Samples' (client use)                         | Special Instructions / Specify Criteria |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | sking on the drop-de | woled leif nwo   | <u> </u>                                           |                  |                                                                                                       | SAMP                                             | LE CONDITI           |                                                  | CEIVED (#                                        |                  |                                                  |                | —           | _         |
|                                | in from a Regulated DW System?                              |                                         | (electronic COC only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                  | Froze                                              |                  | هرس                                                                                                   |                                                  | SIF Obser            |                                                  | ies                                              | Ä                | No                                               |                |             |           |
| •                              | YES KO                                                      | 0 Reg 153104 -                          | Table                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | – NoT or             | n hepon          |                                                    |                  | _                                                                                                     | Copes ["                                         | Custody 8            | eal in <b>la</b> ct                              | Yes                                              |                  | No                                               |                |             | i         |
|                                | human consumption/ use?                                     |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |                  |                                                    | ng Inklie        |                                                                                                       | ER TEMPER                                        | LT: HORO M'          | <del></del>                                      |                                                  | NAL COOLER TO    | Caspenary in                                     | 68.40          | <u></u>     |           |
| ·                              | - 6/                                                        |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |                  | $\vdash$                                           | <u> </u>         | intoir COO                                                                                            | AND THE PERSON NAMED IN                          | 3.5                  |                                                  | <del>U 7</del>                                   | ) [              | - FERRION                                        | <del>~</del> Ť |             | $\dashv$  |
| 11                             | JV.                                                         |                                         | (NITIA) OLEGASTI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | TELECEPTION (I       | there are        | Ļ                                                  |                  |                                                                                                       |                                                  | ENIAL SU             | HOUENTO                                          | PC BD Trees                                      | l (lab use on    | Núi .                                            |                |             | $\dashv$  |
| Released by:                   | / SHIPMENT RELEASE (client use)                             | 7/Time: Received by                     | <del></del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Sate:                | D CHE ONITY      | Time:                                              | <del>-  </del>   | Received                                                                                              | <b>M</b> 77                                      | recut 3H             | Cotos                                            | · · · · · · · · · · · · · · · · · · ·            | ( Carry man bill |                                                  | lime/          | ケ           | ᅺ         |
| Vim                            | Peter 2019/11/                                              | /3 Received by                          | •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | #                    |                  | [                                                  |                  |                                                                                                       | 116                                              |                      | 17t                                              | OU.                                              | / ارب            | 71                                               | 19             | 77.         | $\supset$ |
| REFER TO BACK                  | PAGE FOR ALS LOCATIONS AND SAMPONG IN                       | FORMATION                               | WH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ITE - LABORATORY     | COPY YELLOW      | V - CHI                                            | ENT CO           | PY                                                                                                    |                                                  |                      | - /                                              |                                                  | - 4-4            | <del></del>                                      |                | A 1 1 2017  | FRfn1     |

# Environmental

# Chain of Custody (COC) / Analytical Request Form

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L2381422-COFC

COC Number 17 - 723248

|                                                                         | www.alsglobal.gom                                              |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                                                  |                                                                                             |                                                                                           |                     |                   |              |                                               |              |                |            |            |             |                | —           |
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| Report To                                                               | Curtact and company name below will appear on the final report |                                   | Report Format                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | / Distribution     |                                                  | Select Service Level Below - Contact your AM to confirm all E&P TATe (surcharges may apply) |                                                                                           |                     |                   |              |                                               |              |                |            | —          |             |                |             |
| Company:                                                                | <u> خطم، ال</u>                                                | Select Report Fo                  | rmal: K∏ PoF [                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | - /*               | OD (DIGITAL)                                     | Щ.                                                                                          | Reg                                                                                       | ular (R)            | X 555             | nderd TAT if |                                               |              |                | ne surchen | ges appely |             |                |             |
| Contact:                                                                | Inichaeel ShiM                                                 |                                   | DC) Report with Repo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ~~                 | 40                                               | žå                                                                                          | -                                                                                         | [P4-209             |                   | Į į          | 1 Busine                                      | ış day (E-   | 100%]          |            |            |             |                | ᄖ           |
| Phone.                                                                  | 579-579-3500                                                   | Compare Resu                      | its to Criteria or Report ∙ p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                                                  | 9 1                                                                                         | •                                                                                         | [P3-25%             | · 🖂               | 1 🐇          | Same Day                                      | Weeken       | d or St        | atutory    | noliday (F | 2-200%      | 4              |             |
|                                                                         | Company address below will appear on the final report          | Select Distribution               | ··· /^                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | MAD                | FAX                                              | 4                                                                                           | 2 day                                                                                     | [P2-50 <sup>9</sup> | b]                |              | (Laborato                                     | ry openin    | g tees         | may app    | ן נעינ     |             |                |             |
| Str <del>ee</del> t:                                                    | 72 Victoria St. S. Su fr 300                                   | Email 1 or Fax                    | as our                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | guote              |                                                  |                                                                                             | The Part of the Part Tare                                                                 |                     |                   |              |                                               |              |                |            |            | _           |                |             |
| City/Province.                                                          | Kitchener ON                                                   | Email 2                           | Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1                  |                                                  | For team                                                                                    | their can not be performed according to the veryion level selected, you will be concected |                     |                   |              |                                               |              |                |            |            |             |                |             |
| Postal Code:                                                            | N26 479                                                        | Email 3                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                                                  |                                                                                             | Analysia Request                                                                          |                     |                   |              |                                               |              |                |            |            |             |                |             |
| Invoice Ta                                                              | Same as Report To   YES   NO                                   |                                   | Invoice Dis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | bribution          |                                                  | L                                                                                           |                                                                                           | Indica              | he Hillemed (F    | Preserved (  | F) or Fisared                                 | and Preserve | 선 (타바) 1       | nakow:     |            | _           | dentaji        |             |
|                                                                         | Copy of Invoice with Report X YES   No                         | Select Invokce Ol:                | stribution 📋 🗈                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | MAZL MAJI          | ] FAX                                            |                                                                                             |                                                                                           |                     |                   |              | :                                             | !            | <u> </u>       |            | <u> </u>   | _           | ١٥             |             |
| Company:                                                                | •                                                              | Email 1 or Fax Ar Counts Pougable |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                                                  | 3                                                                                           | '                                                                                         |                     | i                 |              |                                               |              | 1              |            | 1          |             | further        |             |
| Contact:                                                                |                                                                | Email 2                           | Email 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                                                  |                                                                                             |                                                                                           | -                   | i l               |              |                                               |              |                |            | 1          |             | 8              | 1           |
|                                                                         | Project Information                                            |                                   | and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s |                    |                                                  |                                                                                             |                                                                                           | ı                   |                   |              |                                               |              |                |            | 1          |             | provide        |             |
| ALS Account #                                                           | Quote# (Q') 2_9 80                                             | AFE/Cost Centor:                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | PO#                |                                                  | [-]                                                                                         | <u>.</u>                                                                                  |                     |                   |              |                                               |              |                | }          | 1          |             | 🔓 🤊            | ا ا         |
| Jab#:                                                                   | -,                                                             | Mejor/Minor Code:                 | politing Code. Routing Code.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                                                  |                                                                                             |                                                                                           |                     |                   |              |                                               |              |                | i          | 1          | ١.          | (please        | 8           |
| PO / AFE:                                                               |                                                                | Requisitioner:                    | quisitioner:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                                                  |                                                                                             |                                                                                           |                     |                   |              |                                               |              |                |            | i I        | ۽ ا         | ()<br>En       | ₹           |
| LSD:                                                                    |                                                                | Location                          | tion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                                                  |                                                                                             |                                                                                           |                     |                   |              |                                               |              |                |            | i i        | HOLD        | ₽              | CONTAINER   |
| ALS Lab Wor                                                             | rk Order # (lab use only): \ 388 M33 K                         | ALS Contact:                      | 2.Hmsn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sampler: V 、       | Peters                                           | <del>ct</del> als.                                                                          | 4                                                                                         | 抇성                  |                   |              |                                               |              |                |            |            | ₹           | le hazs        | lъl         |
| ALS Sample #                                                            | Sample Identification and/or Coordinates                       |                                   | Date                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Time               | Samula Tuna                                      | ξ                                                                                           | E                                                                                         | Z 2                 | 레                 |              |                                               |              |                |            |            | SAMPLES     | Затріе         | NUMBER      |
| (lab use only)                                                          | (This description will appear on the report)                   |                                   | (dd-mmm-yy)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | (hh:mm)            | Şampla Type                                      | 2                                                                                           | ۲                                                                                         | $\sigma_{i}$        | <u> </u>          |              |                                               |              |                | <u> </u>   |            | - \$        | ä              | . ₹         |
| 13                                                                      | BHZ09N - 4-44                                                  |                                   | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9:06               | Soil                                             |                                                                                             |                                                                                           |                     |                   |              |                                               |              | _              |            |            | _X          |                |             |
| 14                                                                      | BH 209W - 4-44                                                 |                                   | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9:07               | Coil                                             | <b> </b>                                                                                    |                                                                                           |                     |                   |              |                                               |              | _              |            |            | TX          |                | П           |
| 15                                                                      | BHZ095 - 4-4.4                                                 |                                   | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9:08               | 50.1                                             |                                                                                             |                                                                                           |                     | · -               |              |                                               | 1            |                |            |            | ℸೱ          |                | П           |
| 16                                                                      | BH709 - 8-8,5                                                  |                                   | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 9:30               | Soil                                             | П                                                                                           |                                                                                           |                     | $\top$            |              |                                               | 1            |                |            |            | ĺχ          | .]             |             |
| 17)                                                                     | Durl                                                           |                                   | 2-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    | 50, (                                            | 1                                                                                           | X                                                                                         |                     | 7 1               |              |                                               | $\top$       |                | _[         |            | T           | T              | $\Box$      |
| 18                                                                      | Dup2                                                           |                                   | 12 -11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    | Cail                                             | <del> </del>                                                                                |                                                                                           | 15                  | <i>7</i>          |              |                                               | 1 1          | .              | -          |            |             | $\top$         | П           |
| 14                                                                      | <del></del>                                                    |                                   | 13-11-19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    | Soil                                             | X                                                                                           | $\overline{}$                                                                             | <del></del>         | <del>-  -  </del> |              |                                               | 1 1          |                |            | $\vdash$   | 1           | †              | М           |
| 191                                                                     | pur3                                                           |                                   | 13-11-17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    | 5011                                             | Y                                                                                           | -                                                                                         | +                   | ┼╍╂               | +            |                                               | ++           | $\dashv$       | +          | ├          | +           | t              | H           |
|                                                                         |                                                                |                                   | <del> </del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ···                | +                                                | $\vdash$                                                                                    | $\vdash$                                                                                  | <del></del>         | <del>  </del>     | -            | <del>  </del>                                 | +            | +              | +          | ┼┼         | +           | ╂┈             | ┢┈┤         |
|                                                                         |                                                                |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ļ <u>.</u>         | <del>                                     </del> | <del> </del>                                                                                | $\vdash$                                                                                  |                     | +                 | <del></del>  | <del></del>                                   | +            | +              |            | $\vdash$   |             | +              | ₩           |
|                                                                         |                                                                |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    | ļ                                                | ļ <u>-</u>                                                                                  | $\vdash$                                                                                  | _                   | +                 |              | ļ <del></del>                                 | +            | _              | -          | $\vdash$   |             | ₩              | Н           |
|                                                                         |                                                                |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                                                  | L                                                                                           |                                                                                           |                     | $\perp$           |              | $oxed{oxed}$                                  | $\downarrow$ |                |            | $\vdash$   | ┷           | —              | ш           |
|                                                                         |                                                                |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ļ                  |                                                  | !                                                                                           |                                                                                           |                     |                   |              |                                               |              |                |            |            |             |                | Ш           |
|                                                                         | Special Instructions /                                         |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ting on the drop-d | lown Nat below                                   |                                                                                             |                                                                                           |                     | <u>∕</u> 3A       | MPLE COM     |                                               |              |                |            |            |             |                |             |
|                                                                         | g Water (DW) Samples¹ (client use)                             | {ele-                             | ctronic COC only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                                                  | Froze                                                                                       | n                                                                                         | _/-                 | <b>-</b>          |              | Poservation                                   | _            | 93             | ā          |            | <b>l</b> o  |                | ן┈⊒         |
| 1                                                                       | n from a Regulated DW System?  ES IN NO D, Reg. 153/           | 04-Tai                            | ble 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                                                  | ce Pa                                                                                       |                                                                                           | _                   |                   | Cust         | xdy seal in                                   | and Y        | <b>/8</b> 8    |            | N          | <b>l</b> a  |                | ▫▮          |
| ı –                                                                     |                                                                | , ιω                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                                                  | Cooli                                                                                       | ud juyps                                                                                  |                     |                   |              |                                               | <del> </del> |                |            |            | <del></del> | <del></del>    |             |
| Are samples for h                                                       | numain consumption/ use?                                       |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                                                  | <del></del>                                                                                 | <u>'</u>                                                                                  | HITTAL CO           | OLER TEMP         | ERATIFRES"   | <u>c                                     </u> | + +          | <del>/ /</del> | AT COOFE   | ER TEMPER  | ATURES      | <del>"</del> - | <del></del> |
| YES   <b>X</b> \ NO                                                     |                                                                |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |                                                  | FINAL SHIPMENT RECEPTION (lab use only)                                                     |                                                                                           |                     |                   |              |                                               | <u> </u>     | ∸┤             |            |            |             |                |             |
| SHIPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (lab use only) |                                                                |                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    | ab use only)                                     | Times                                                                                       |                                                                                           | Receive             | et bin I          | FINA         | LSHIPME                                       | NT RECE      | PTION          | (lab use   | i only)    | Terr        | et 1.          | <del></del> |
| Religiased by                                                           | Peter 2019/11/13 14:15                                         | Received by:                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Digite.            |                                                  |                                                                                             | i                                                                                         |                     | <u> </u>          | <u></u>      |                                               | JOU          |                | 3]/        | <u>I</u>   |             | 4              |             |
| REFER TO BACK                                                           | PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION                | •                                 | WHI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | TE - LABORATORY    | COPY YELLO                                       | W - CLI                                                                                     | ENT CC                                                                                    | IΓΥ                 | ,                 |              | 7                                             | _            |                | ιí         | •          | -           | f aiter        | W. HEDRI    |

Failure to complete all portions of this form may detay analyses. Please fill in this form LEGIBLY. By the use of this form the user solution-visual agrees with the Terms and Conditions as specified on the White -report Copy.

<sup>🔭</sup> il any water samples are taken from a Regulated Drinking Water (DW). System, please submit using en Authorized DW COC form



CH2M HILL CANADA LIMITED

ATTN: Michael Shiry

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 22-NOV-19

Report Date: 28-NOV-19 14:35 (MT)

Version: FINAL

Client Phone: 519-579-3500

## Certificate of Analysis

Lab Work Order #: L2386575
Project P.O. #: NOT SUBMITTED

Job Reference: CE751900 C of C Numbers: 17-820117

Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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L2386575 CONTD....

Page 2 of 5

| E751900                             |        |           |        |       |           | 28-NOV-19 14:35 (M |                  |  |  |  |  |
|-------------------------------------|--------|-----------|--------|-------|-----------|--------------------|------------------|--|--|--|--|
| Sample Details<br>Grouping Analyte  | Result | Qualifier | D.L.   | Units | Analyzed  |                    | Guideline Limits |  |  |  |  |
| L2386575-1 BH208-7.5-8              |        |           |        |       |           |                    |                  |  |  |  |  |
| Sampled By: MS on 21-NOV-19 @ 12:39 |        |           |        |       |           |                    |                  |  |  |  |  |
| Matrix: SOIL                        |        |           |        |       |           | #1                 |                  |  |  |  |  |
| Physical Tests                      |        |           |        |       |           |                    |                  |  |  |  |  |
| % Moisture                          | 6.60   |           | 0.25   | %     | 25-NOV-19 |                    |                  |  |  |  |  |
| Polycyclic Aromatic Hydrocarbons    |        |           |        |       |           |                    |                  |  |  |  |  |
| Acenaphthene                        | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.072              |                  |  |  |  |  |
| Acenaphthylene                      | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.093              |                  |  |  |  |  |
| Anthracene                          | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.16               |                  |  |  |  |  |
| Benzo(a)anthracene                  | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.36               |                  |  |  |  |  |
| Benzo(a)pyrene                      | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.3                |                  |  |  |  |  |
| Benzo(b)fluoranthene                | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.47               |                  |  |  |  |  |
| Benzo(g,h,i)perylene                | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.68               |                  |  |  |  |  |
| Benzo(k)fluoranthene                | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.48               |                  |  |  |  |  |
| Chrysene                            | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 2.8                |                  |  |  |  |  |
| Dibenzo(ah)anthracene               | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.1                |                  |  |  |  |  |
| Fluoranthene                        | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.56               |                  |  |  |  |  |
| Fluorene                            | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.12               |                  |  |  |  |  |
| Indeno(1,2,3-cd)pyrene              | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 0.23               |                  |  |  |  |  |
| 1+2-Methylnaphthalenes              | <0.042 |           | 0.042  | ug/g  | 28-NOV-19 | 0.59               |                  |  |  |  |  |
| 1-Methylnaphthalene                 | <0.030 |           | 0.030  | ug/g  | 27-NOV-19 | 0.59               |                  |  |  |  |  |
| 2-Methylnaphthalene                 | <0.030 |           | 0.030  | ug/g  | 27-NOV-19 | 0.59               |                  |  |  |  |  |
| Naphthalene                         | <0.013 |           | 0.013  | ug/g  | 27-NOV-19 | 0.09               |                  |  |  |  |  |
| Phenanthrene                        | <0.046 |           | 0.046  | ug/g  | 27-NOV-19 | 0.69               |                  |  |  |  |  |
| Pyrene                              | <0.050 |           | 0.050  | ug/g  | 27-NOV-19 | 1                  |                  |  |  |  |  |
| Surrogate: 2-Fluorobiphenyl         | 90.5   |           | 50-140 | %     | 27-NOV-19 |                    |                  |  |  |  |  |
| Surrogate: p-Terphenyl d14          | 82.3   |           | 50-140 | %     | 27-NOV-19 |                    |                  |  |  |  |  |
| .2386575-3 BH210-3.5                |        |           |        |       |           |                    |                  |  |  |  |  |
| Sampled By: MS on 21-NOV-19 @ 09:09 |        |           |        |       |           |                    |                  |  |  |  |  |
| Matrix: SOIL                        |        |           |        |       |           | #1                 |                  |  |  |  |  |
| Metals                              |        |           |        |       |           |                    |                  |  |  |  |  |
| Antimony (Sb)                       | <1.0   |           | 1.0    | ug/g  | 26-NOV-19 | 1.3                |                  |  |  |  |  |
| Arsenic (As)                        | 3.5    |           | 1.0    | ug/g  | 26-NOV-19 | 18                 |                  |  |  |  |  |
| Barium (Ba)                         | 38.2   |           | 1.0    | ug/g  | 26-NOV-19 | 220                |                  |  |  |  |  |
| Beryllium (Be)                      | <0.50  |           | 0.50   | ug/g  | 26-NOV-19 | 2.5                |                  |  |  |  |  |
| Boron (B)                           | 5.1    |           | 5.0    | ug/g  | 26-NOV-19 | 36                 |                  |  |  |  |  |
| Cadmium (Cd)                        | <0.50  |           | 0.50   | ug/g  | 26-NOV-19 | 1.2                |                  |  |  |  |  |
| Chromium (Cr)                       | 11.0   |           | 1.0    | ug/g  | 26-NOV-19 | 70                 |                  |  |  |  |  |
| Cobalt (Co)                         | 3.7    |           | 1.0    | ug/g  | 26-NOV-19 | 21                 |                  |  |  |  |  |
| Copper (Cu)                         | 10.4   |           | 1.0    | ug/g  | 26-NOV-19 | 92                 |                  |  |  |  |  |
| Lead (Pb)                           | 38.4   |           | 1.0    | ug/g  | 26-NOV-19 | 120                |                  |  |  |  |  |
| Molybdenum (Mo)                     | <1.0   |           | 1.0    | ug/g  | 26-NOV-19 | 2                  |                  |  |  |  |  |
| Nickel (Ni)                         | 9.5    |           | 1.0    | ug/g  | 26-NOV-19 | 82                 |                  |  |  |  |  |
| Selenium (Se)                       | <1.0   |           | 1.0    | ug/g  | 26-NOV-19 | 1.5                |                  |  |  |  |  |
| Silver (Ag)                         | <0.20  |           | 0.20   | ug/g  | 26-NOV-19 | 0.5                |                  |  |  |  |  |
| Thallium (TI)                       | <0.50  |           | 0.50   | ug/g  | 26-NOV-19 | 1                  |                  |  |  |  |  |
| Uranium (U)                         | <1.0   |           | 1.0    | ug/g  | 26-NOV-19 | 2.5                |                  |  |  |  |  |
| Vanadium (V)                        | 23.9   | 1         | 1.0    | ug/g  | 26-NOV-19 | 86                 |                  |  |  |  |  |

<sup>\*\*</sup> 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:



L2386575 CONTD....

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| E751900                             | ANALI                         | IICAL | טוטט | CLINE | KEPOK     | \ <b>I</b>       | Page 3<br>28-NOV-19 14 |  |  |
|-------------------------------------|-------------------------------|-------|------|-------|-----------|------------------|------------------------|--|--|
| Sample Details Grouping Analyte     | Analyte Result Qualifier D.L. |       |      |       |           | Guideline Limits |                        |  |  |
| L2386575-3 BH210-3.5                |                               |       |      |       |           |                  |                        |  |  |
| Sampled By: MS on 21-NOV-19 @ 09:09 |                               |       |      |       |           |                  |                        |  |  |
| Matrix: SOIL                        |                               |       |      |       |           | #1               |                        |  |  |
| Metals                              |                               |       |      |       |           |                  |                        |  |  |
| Zinc (Zn)                           | 120                           |       | 5.0  | ug/g  | 26-NOV-19 | 290              |                        |  |  |
| L2386575-4 BH210-6.5-7              |                               |       |      |       |           |                  |                        |  |  |
| Sampled By: MS on 21-NOV-19 @ 09:17 |                               |       |      |       |           |                  |                        |  |  |
| Matrix: SOIL                        |                               |       |      |       |           | #1               |                        |  |  |
| Metals                              |                               |       |      |       |           |                  |                        |  |  |
| Antimony (Sb)                       | <1.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 1.3              |                        |  |  |
| Arsenic (As)                        | 4.2                           |       | 1.0  | ug/g  | 26-NOV-19 | 18               |                        |  |  |
| Barium (Ba)                         | 42.7                          |       | 1.0  | ug/g  | 26-NOV-19 | 220              |                        |  |  |
| Beryllium (Be)                      | <0.50                         |       | 0.50 | ug/g  | 26-NOV-19 | 2.5              |                        |  |  |
| Boron (B)                           | 5.7                           |       | 5.0  | ug/g  | 26-NOV-19 | 36               |                        |  |  |
| Cadmium (Cd)                        | <0.50                         |       | 0.50 | ug/g  | 26-NOV-19 | 1.2              |                        |  |  |
| Chromium (Cr)                       | 14.1                          |       | 1.0  | ug/g  | 26-NOV-19 | 70               |                        |  |  |
| Cobalt (Co)                         | 4.6                           |       | 1.0  | ug/g  | 26-NOV-19 | 21               |                        |  |  |
| Copper (Cu)                         | 13.8                          |       | 1.0  | ug/g  | 26-NOV-19 | 92               |                        |  |  |
| Lead (Pb)                           | 16.9                          |       | 1.0  | ug/g  | 26-NOV-19 | 120              |                        |  |  |
| Molybdenum (Mo)                     | <1.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 2                |                        |  |  |
| Nickel (Ni)                         | 11.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 82               |                        |  |  |
| Selenium (Se)                       | <1.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 1.5              |                        |  |  |
| Silver (Ag)                         | <0.20                         |       | 0.20 | ug/g  | 26-NOV-19 | 0.5              |                        |  |  |
| Thallium (TI)                       | <0.50                         |       | 0.50 | ug/g  | 26-NOV-19 | 1                |                        |  |  |
| Uranium (U)                         | <1.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 2.5              |                        |  |  |
| Vanadium (V)                        | 32.4                          |       | 1.0  | ug/g  | 26-NOV-19 | 86               |                        |  |  |
| Zinc (Zn)                           | 106                           |       | 5.0  | ug/g  | 26-NOV-19 | 290              |                        |  |  |
| L2386575-7 BH211-10-12              |                               |       |      |       |           |                  |                        |  |  |
| Sampled By: MS on 21-NOV-19 @ 10:58 |                               |       |      |       |           |                  |                        |  |  |
| Matrix: SOIL                        |                               |       |      |       |           | #1               |                        |  |  |
| Metals                              |                               |       |      |       |           |                  |                        |  |  |
| Antimony (Sb)                       | <1.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 1.3              |                        |  |  |
| Arsenic (As)                        | 1.7                           |       | 1.0  | ug/g  | 26-NOV-19 | 18               |                        |  |  |
| Barium (Ba)                         | 18.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 220              |                        |  |  |
| Beryllium (Be)                      | <0.50                         |       | 0.50 | ug/g  | 26-NOV-19 | 2.5              |                        |  |  |
| Boron (B)                           | <5.0                          |       | 5.0  | ug/g  | 26-NOV-19 | 36               |                        |  |  |
| Cadmium (Cd)                        | <0.50                         |       | 0.50 | ug/g  | 26-NOV-19 | 1.2              |                        |  |  |
| Chromium (Cr)                       | 6.6                           |       | 1.0  | ug/g  | 26-NOV-19 | 70               |                        |  |  |
| Cobalt (Co)                         | 2.1                           |       | 1.0  | ug/g  | 26-NOV-19 | 21               |                        |  |  |
| Copper (Cu)                         | 7.4                           |       | 1.0  | ug/g  | 26-NOV-19 | 92               |                        |  |  |
| Lead (Pb)                           | 18.7                          |       | 1.0  | ug/g  | 26-NOV-19 | 120              |                        |  |  |
| Molybdenum (Mo)                     | <1.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 2                |                        |  |  |
| Nickel (Ni)                         | 4.7                           |       | 1.0  | ug/g  | 26-NOV-19 | 82               |                        |  |  |
| Selenium (Se)                       | <1.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 1.5              |                        |  |  |
| Silver (Ag)                         | <0.20                         |       | 0.20 | ug/g  | 26-NOV-19 | 0.5              |                        |  |  |
| Thallium (TI)                       | <0.50                         |       | 0.50 | ug/g  | 26-NOV-19 | 1                |                        |  |  |
| Uranium (U)                         | <1.0                          |       | 1.0  | ug/g  | 26-NOV-19 | 2.5              |                        |  |  |
| Clarium (O)                         | 1.0                           |       | 1.0  |       | 201401-19 | 2.0              |                        |  |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



L2386575 CONTD....

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| E751900                                    | ANALI                             | IICAL | שוטט           | CLINE        | KEPOK                  | \ <b>I</b>       | Page 4<br>28-NOV-19 1 |  |  |
|--------------------------------------------|-----------------------------------|-------|----------------|--------------|------------------------|------------------|-----------------------|--|--|
| Sample Details<br>Grouping Analyte         | alyte Result Qualifier D.L. Units |       |                |              | Analyzed               | Guideline Limits |                       |  |  |
| _2386575-7 BH211-10-12                     |                                   |       |                |              |                        |                  |                       |  |  |
| Sampled By: MS on 21-NOV-19 @ 10:58        |                                   |       |                |              |                        |                  |                       |  |  |
| Matrix: SOIL                               |                                   |       |                |              |                        | #1               |                       |  |  |
| Metals                                     |                                   |       |                |              |                        |                  |                       |  |  |
| Vanadium (V)                               | 13.1                              |       | 1.0            | ug/g         | 26-NOV-19              | 86               |                       |  |  |
| Zinc (Zn)                                  | 83.1                              |       | 5.0            | ug/g<br>ug/g | 26-NOV-19              | 290              |                       |  |  |
|                                            | 00.1                              |       | 0.0            | 49/9         | 201101 10              | 200              |                       |  |  |
| L2386575-9 DUP 4                           |                                   |       |                |              |                        |                  |                       |  |  |
| Sampled By: MS on 21-NOV-19                |                                   |       |                |              |                        | #1               |                       |  |  |
| Matrix: SOIL                               |                                   |       |                |              |                        |                  |                       |  |  |
| Physical Tests                             |                                   |       |                |              |                        |                  |                       |  |  |
| % Moisture                                 | 6.66                              |       | 0.25           | %            | 25-NOV-19              |                  |                       |  |  |
| Polycyclic Aromatic Hydrocarbons           |                                   |       |                |              |                        |                  |                       |  |  |
| Acenaphthene                               | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.072            |                       |  |  |
| Acenaphthylene                             | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.093            |                       |  |  |
| Anthracene                                 | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.16             |                       |  |  |
| Benzo(a)anthracene                         | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.36             |                       |  |  |
| Benzo(a)pyrene                             | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.3              |                       |  |  |
| Benzo(b)fluoranthene                       | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.47             |                       |  |  |
| Benzo(g,h,i)perylene                       | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.68             |                       |  |  |
| Benzo(k)fluoranthene                       | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.48             |                       |  |  |
| Chrysene                                   | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 2.8              |                       |  |  |
| Dibenzo(ah)anthracene                      | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.1              |                       |  |  |
| Fluoranthene                               | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.56             |                       |  |  |
| Fluorene                                   | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 0.12             |                       |  |  |
| Indeno(1,2,3-cd)pyrene                     | <0.050<br><0.042                  |       | 0.050          | ug/g         | 27-NOV-19              | 0.23             |                       |  |  |
| 1+2-Methylnaphthalenes 1-Methylnaphthalene | <0.042                            |       | 0.042<br>0.030 | ug/g<br>ug/g | 28-NOV-19<br>27-NOV-19 | 0.59<br>0.59     |                       |  |  |
| 2-Methylnaphthalene                        | <0.030                            |       | 0.030          | ug/g<br>ug/g | 27-NOV-19<br>27-NOV-19 | 0.59             |                       |  |  |
| Naphthalene                                | <0.013                            |       | 0.030          | ug/g<br>ug/g | 27-NOV-19              | 0.09             |                       |  |  |
| Phenanthrene                               | <0.046                            |       | 0.046          | ug/g         | 27-NOV-19              | 0.69             |                       |  |  |
| Pyrene                                     | <0.050                            |       | 0.050          | ug/g         | 27-NOV-19              | 1                |                       |  |  |
| Surrogate: 2-Fluorobiphenyl                | 89.3                              |       | 50-140         | %            | 27-NOV-19              | •                |                       |  |  |
| Surrogate: p-Terphenyl d14                 | 81.8                              |       | 50-140         | %            | 27-NOV-19              |                  |                       |  |  |
|                                            |                                   |       |                |              |                        |                  |                       |  |  |
|                                            |                                   |       |                |              |                        |                  |                       |  |  |
|                                            |                                   |       |                |              |                        |                  |                       |  |  |
|                                            |                                   |       |                |              |                        |                  |                       |  |  |
|                                            |                                   |       |                |              |                        |                  |                       |  |  |
|                                            |                                   |       |                |              |                        |                  |                       |  |  |

<sup>\*\*</sup> 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:

#### Methods Listed (if applicable):

ALS Test Code Matrix Test Description Method Reference\*\*\*

MET-200.2-CCMS-WT Soil Metals in Soil by CRC ICPMS EPA 200.2/6020A (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 technique is 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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

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

Chain of Custody numbers:

17-820117

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<br>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.



Workorder: L2386575 Report Date: 28-NOV-19 Page 1 of 6

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Michael Shiry

| Test              | Matrix | Reference  | Result               | Qualifier | Units | RPD   | Limit     | Analyzed  |
|-------------------|--------|------------|----------------------|-----------|-------|-------|-----------|-----------|
| MET-200.2-CCMS-WT | Soil   |            |                      |           |       |       |           |           |
| Batch R4924654    | 4      |            |                      |           |       |       |           |           |
| WG3227966-2 CRM   |        | WT-CANMET  |                      |           |       |       |           |           |
| Antimony (Sb)     |        |            | 103.2                |           | %     |       | 70-130    | 26-NOV-19 |
| Arsenic (As)      |        |            | 106.5                |           | %     |       | 70-130    | 26-NOV-19 |
| Barium (Ba)       |        |            | 107.6                |           | %     |       | 70-130    | 26-NOV-19 |
| Beryllium (Be)    |        |            | 96.7                 |           | %     |       | 70-130    | 26-NOV-19 |
| Boron (B)         |        |            | 3.3                  |           | mg/kg |       | 0-8.6     | 26-NOV-19 |
| Cadmium (Cd)      |        |            | 104.4                |           | %     |       | 70-130    | 26-NOV-19 |
| Chromium (Cr)     |        |            | 104.9                |           | %     |       | 70-130    | 26-NOV-19 |
| Cobalt (Co)       |        |            | 105.3                |           | %     |       | 70-130    | 26-NOV-19 |
| Copper (Cu)       |        |            | 103.4                |           | %     |       | 70-130    | 26-NOV-19 |
| Lead (Pb)         |        |            | 105.5                |           | %     |       | 70-130    | 26-NOV-19 |
| Molybdenum (Mo)   |        |            | 103.3                |           | %     |       | 70-130    | 26-NOV-19 |
| Nickel (Ni)       |        |            | 105.0                |           | %     |       | 70-130    | 26-NOV-19 |
| Selenium (Se)     |        |            | 0.39                 |           | mg/kg |       | 0.15-0.55 | 26-NOV-19 |
| Silver (Ag)       |        |            | 0.26                 |           | mg/kg |       | 0.16-0.36 | 26-NOV-19 |
| Thallium (TI)     |        |            | 104.7                |           | %     |       | 70-130    | 26-NOV-19 |
| Uranium (U)       |        |            | 96.8                 |           | %     |       | 70-130    | 26-NOV-19 |
| Vanadium (V)      |        |            | 105.9                |           | %     |       | 70-130    | 26-NOV-19 |
| Zinc (Zn)         |        |            | 102.3                |           | %     |       | 70-130    | 26-NOV-19 |
| WG3227966-6 DUP   |        | WG3227966- |                      |           |       |       |           |           |
| Antimony (Sb)     |        | 0.26       | 0.28                 |           | ug/g  | 5.8   | 30        | 26-NOV-19 |
| Arsenic (As)      |        | 6.29       | 6.26                 |           | ug/g  | 0.5   | 30        | 26-NOV-19 |
| Barium (Ba)       |        | 43.6       | 45.3                 |           | ug/g  | 3.8   | 40        | 26-NOV-19 |
| Beryllium (Be)    |        | 0.87       | 0.85                 |           | ug/g  | 1.4   | 30        | 26-NOV-19 |
| Boron (B)         |        | 16.3       | 16.3                 |           | ug/g  | 0.5   | 30        | 26-NOV-19 |
| Cadmium (Cd)      |        | 0.054      | 0.055                |           | ug/g  | 1.3   | 30        | 26-NOV-19 |
| Chromium (Cr)     |        | 26.1       | 26.4                 |           | ug/g  | 0.9   | 30        | 26-NOV-19 |
| Cobalt (Co)       |        | 14.8       | 14.7                 |           | ug/g  | 0.9   | 30        | 26-NOV-19 |
| Copper (Cu)       |        | 22.2       | 23.1                 |           | ug/g  | 3.7   | 30        | 26-NOV-19 |
| Lead (Pb)         |        | 9.58       | 9.88                 |           | ug/g  | 3.1   | 40        | 26-NOV-19 |
| Molybdenum (Mo)   |        | 0.65       | 0.66                 |           | ug/g  | 1.6   | 40        | 26-NOV-19 |
| Nickel (Ni)       |        | 30.6       | 30.4                 |           | ug/g  | 0.6   | 30        | 26-NOV-19 |
| Selenium (Se)     |        | <0.20      | <0.20                | RPD-NA    | ug/g  | N/A   | 30        | 26-NOV-19 |
| Silver (Ag)       |        | <0.10      | <0.10                | RPD-NA    | ug/g  | N/A   | 40        | 26-NOV-19 |
| ( 9)              |        | - · ·      | - · · · <del>-</del> | 1.1.011/1 | - 3-3 | 14//1 | . •       | _0.10.10  |



Workorder: L2386575 Report Date: 28-NOV-19 Page 2 of 6

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Michael Shiry

| Test                                |        | Matrix | Reference                | Result | Qualifier | Units        | RPD | Limit  | Analyzed  |
|-------------------------------------|--------|--------|--------------------------|--------|-----------|--------------|-----|--------|-----------|
| MET-200.2-CCMS-                     | ΝT     | Soil   |                          |        |           |              |     |        |           |
| Batch R4                            | 924654 |        |                          |        |           |              |     |        |           |
| <b>WG3227966-6</b><br>Thallium (TI) | DUP    |        | <b>WG3227966-5</b> 0.136 | 0.137  |           | ug/g         | 0.7 | 30     | 26 NOV 40 |
| Uranium (U)                         |        |        | 0.657                    | 0.137  |           | ug/g<br>ug/g |     |        | 26-NOV-19 |
| Vanadium (V)                        |        |        | 32.5                     | 32.9   |           |              | 2.5 | 30     | 26-NOV-19 |
| Zinc (Zn)                           |        |        | 67.0                     | 66.7   |           | ug/g         | 1.2 | 30     | 26-NOV-19 |
|                                     | 1.00   |        | 07.0                     | 00.7   |           | ug/g         | 0.5 | 30     | 26-NOV-19 |
| <b>WG3227966-4</b><br>Antimony (Sb) | LCS    |        |                          | 107.9  |           | %            |     | 80-120 | 26-NOV-19 |
| Arsenic (As)                        |        |        |                          | 96.9   |           | %            |     | 80-120 | 26-NOV-19 |
| Barium (Ba)                         |        |        |                          | 103.7  |           | %            |     | 80-120 | 26-NOV-19 |
| Beryllium (Be)                      |        |        |                          | 94.0   |           | %            |     | 80-120 | 26-NOV-19 |
| Boron (B)                           |        |        |                          | 89.9   |           | %            |     | 80-120 | 26-NOV-19 |
| Cadmium (Cd)                        |        |        |                          | 96.7   |           | %            |     | 80-120 | 26-NOV-19 |
| Chromium (Cr)                       |        |        |                          | 97.9   |           | %            |     | 80-120 | 26-NOV-19 |
| Cobalt (Co)                         |        |        |                          | 96.3   |           | %            |     | 80-120 | 26-NOV-19 |
| Copper (Cu)                         |        |        |                          | 94.5   |           | %            |     | 80-120 | 26-NOV-19 |
| Lead (Pb)                           |        |        |                          | 100.7  |           | %            |     | 80-120 | 26-NOV-19 |
| Molybdenum (M                       | 0)     |        |                          | 101.8  |           | %            |     | 80-120 | 26-NOV-19 |
| Nickel (Ni)                         |        |        |                          | 95.0   |           | %            |     | 80-120 | 26-NOV-19 |
| Selenium (Se)                       |        |        |                          | 98.9   |           | %            |     | 80-120 | 26-NOV-19 |
| Silver (Ag)                         |        |        |                          | 97.6   |           | %            |     | 80-120 | 26-NOV-19 |
| Thallium (TI)                       |        |        |                          | 101.6  |           | %            |     | 80-120 | 26-NOV-19 |
| Uranium (U)                         |        |        |                          | 93.4   |           | %            |     | 80-120 | 26-NOV-19 |
| Vanadium (V)                        |        |        |                          | 100.9  |           | %            |     | 80-120 | 26-NOV-19 |
| Zinc (Zn)                           |        |        |                          | 94.2   |           | %            |     | 80-120 | 26-NOV-19 |
| <b>WG3227966-1</b> Antimony (Sb)    | MB     |        |                          | <0.10  |           | mg/kg        |     | 0.1    | 26-NOV-19 |
| Arsenic (As)                        |        |        |                          | <0.10  |           | mg/kg        |     | 0.1    | 26-NOV-19 |
| Barium (Ba)                         |        |        |                          | <0.50  |           | mg/kg        |     | 0.5    | 26-NOV-19 |
| Beryllium (Be)                      |        |        |                          | <0.10  |           | mg/kg        |     | 0.1    | 26-NOV-19 |
| Boron (B)                           |        |        |                          | <5.0   |           | mg/kg        |     | 5      | 26-NOV-19 |
| Cadmium (Cd)                        |        |        |                          | <0.020 |           | mg/kg        |     | 0.02   | 26-NOV-19 |
| Chromium (Cr)                       |        |        |                          | <0.50  |           | mg/kg        |     | 0.5    | 26-NOV-19 |
| Cobalt (Co)                         |        |        |                          | <0.10  |           | mg/kg        |     | 0.1    | 26-NOV-19 |
| Copper (Cu)                         |        |        |                          | <0.50  |           | mg/kg        |     | 0.5    | 26-NOV-19 |
| Lead (Pb)                           |        |        |                          | <0.50  |           | mg/kg        |     | 0.5    | 26-NOV-19 |
|                                     |        |        |                          |        |           |              |     |        |           |



Qualifier

Workorder: L2386575 Report Date: 28-NOV-19 Page 3 of 6

RPD

Limit

Analyzed

Units

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Matrix

Reference

Result

Contact: Michael Shiry

Test

| MET 200 2 COMO WT                   | Soil |             |         |         |       |              |        |           |
|-------------------------------------|------|-------------|---------|---------|-------|--------------|--------|-----------|
| MET-200.2-CCMS-WT<br>Batch R4924654 | 30II |             |         |         |       |              |        |           |
| WG3227966-1 MB                      |      |             |         |         |       |              |        |           |
| Molybdenum (Mo)                     |      |             | <0.10   |         | mg/kg |              | 0.1    | 26-NOV-19 |
| Nickel (Ni)                         |      |             | <0.50   |         | mg/kg |              | 0.5    | 26-NOV-19 |
| Selenium (Se)                       |      |             | <0.20   |         | mg/kg |              | 0.2    | 26-NOV-19 |
| Silver (Ag)                         |      |             | <0.10   |         | mg/kg |              | 0.1    | 26-NOV-19 |
| Thallium (TI)                       |      |             | <0.050  |         | mg/kg |              | 0.05   | 26-NOV-19 |
| Uranium (U)                         |      |             | <0.050  |         | mg/kg |              | 0.05   | 26-NOV-19 |
| Vanadium (V)                        |      |             | <0.20   |         | mg/kg |              | 0.2    | 26-NOV-19 |
| Zinc (Zn)                           |      |             | <2.0    |         | mg/kg |              | 2      | 26-NOV-19 |
| MOISTURE-WT                         | Soil |             |         |         |       |              |        |           |
| Batch R4922680                      |      |             |         |         |       |              |        |           |
| WG3227066-3 DUP                     |      | L2386552-1  |         |         | 0.4   |              |        |           |
| % Moisture                          |      | 17.5        | 18.3    |         | %     | 4.8          | 20     | 25-NOV-19 |
| WG3227066-2 LCS<br>% Moisture       |      |             | 100.9   |         | %     |              | 90-110 | 25-NOV-19 |
| <b>WG3227066-1 MB</b> % Moisture    |      |             | <0.25   |         | %     |              | 0.25   | 25-NOV-19 |
| PAH-511-WT                          | Soil |             |         |         |       |              |        |           |
| Batch R4927129                      |      |             |         |         |       |              |        |           |
| WG3227065-3 DUP                     |      | WG3227065-5 | .0.000  | DDD 114 |       | <b>N</b> 1/A | 40     |           |
| 1-Methylnaphthalene                 |      | <0.030      | <0.030  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| 2-Methylnaphthalene                 |      | <0.030      | <0.030  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Acenaphthulana                      |      | <0.050      | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Acenaphthylene                      |      | <0.050      | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Anthracene                          |      | <0.050      | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Benzo(a)anthracene                  |      | 0.077       | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Benzo(a)pyrene                      |      | 0.062       | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Benzo(b)fluoranthene                |      | 0.091       | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Benzo(g,h,i)perylene                |      | <0.050      | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Benzo(k)fluoranthene                |      | <0.050      | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Chrysene                            |      | 0.092       | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Dibenzo(ah)anthracene               |      | <0.050      | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Fluoranthene                        |      | 0.143       | <0.050  | DUP-H   | ug/g  | N/A          | 40     | 27-NOV-19 |
| Fluorene                            |      | <0.050      | <0.050  | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |
| Indeno(1,2,3-cd)pyrene              |      | < 0.050     | < 0.050 | RPD-NA  | ug/g  | N/A          | 40     | 27-NOV-19 |



Workorder: L2386575 Report Date: 28-NOV-19 Page 4 of 6

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Michael Shiry

| Test                                             | Matrix | Reference                 | Result | Qualifier | Units | RPD  | Limit  | Analyzed  |
|--------------------------------------------------|--------|---------------------------|--------|-----------|-------|------|--------|-----------|
| PAH-511-WT                                       | Soil   |                           |        |           |       |      |        |           |
| Batch R4927129<br>WG3227065-3 DUP<br>Naphthalene |        | <b>WG3227065-5</b> <0.013 | <0.013 | RPD-NA    | ug/g  | N/A  | 40     | 27-NOV-19 |
| Phenanthrene                                     |        | 0.076                     | <0.046 | RPD-NA    | ug/g  | N/A  | 40     | 27-NOV-19 |
| Pyrene                                           |        | 0.119                     | <0.050 | DUP-H     | ug/g  | N/A  | 40     | 27-NOV-19 |
| WG3227065-2 LCS 1-Methylnaphthalene              |        |                           | 104.5  | 201 11    | %     | ,, . | 50-140 | 27-NOV-19 |
| 2-Methylnaphthalene                              |        |                           | 100.1  |           | %     |      | 50-140 | 27-NOV-19 |
| Acenaphthene                                     |        |                           | 106.5  |           | %     |      | 50-140 | 27-NOV-19 |
| Acenaphthylene                                   |        |                           | 108.8  |           | %     |      | 50-140 | 27-NOV-19 |
| Anthracene                                       |        |                           | 107.3  |           | %     |      | 50-140 | 27-NOV-19 |
| Benzo(a)anthracene                               |        |                           | 104.8  |           | %     |      | 50-140 | 27-NOV-19 |
| Benzo(a)pyrene                                   |        |                           | 108.3  |           | %     |      | 50-140 | 27-NOV-19 |
| Benzo(b)fluoranthene                             |        |                           | 107.6  |           | %     |      | 50-140 | 27-NOV-19 |
| Benzo(g,h,i)perylene                             |        |                           | 107.7  |           | %     |      | 50-140 | 27-NOV-19 |
| Benzo(k)fluoranthene                             |        |                           | 107.5  |           | %     |      | 50-140 | 27-NOV-19 |
| Chrysene                                         |        |                           | 120.5  |           | %     |      | 50-140 | 27-NOV-19 |
| Dibenzo(ah)anthracene                            |        |                           | 111.4  |           | %     |      | 50-140 | 27-NOV-19 |
| Fluoranthene                                     |        |                           | 107.8  |           | %     |      | 50-140 | 27-NOV-19 |
| Fluorene                                         |        |                           | 104.8  |           | %     |      | 50-140 | 27-NOV-19 |
| Indeno(1,2,3-cd)pyrene                           |        |                           | 108.2  |           | %     |      | 50-140 | 27-NOV-19 |
| Naphthalene                                      |        |                           | 103.6  |           | %     |      | 50-140 | 27-NOV-19 |
| Phenanthrene                                     |        |                           | 106.3  |           | %     |      | 50-140 | 27-NOV-19 |
| Pyrene                                           |        |                           | 108.4  |           | %     |      | 50-140 | 27-NOV-19 |
| WG3227065-1 MB<br>1-Methylnaphthalene            |        |                           | <0.030 |           | ug/g  |      | 0.03   | 27-NOV-19 |
| 2-Methylnaphthalene                              |        |                           | <0.030 |           | ug/g  |      | 0.03   | 27-NOV-19 |
| Acenaphthene                                     |        |                           | <0.050 |           | ug/g  |      | 0.05   | 27-NOV-19 |
| Acenaphthylene                                   |        |                           | <0.050 |           | ug/g  |      | 0.05   | 27-NOV-19 |
| Anthracene                                       |        |                           | <0.050 |           | ug/g  |      | 0.05   | 27-NOV-19 |
| Benzo(a)anthracene                               |        |                           | <0.050 |           | ug/g  |      | 0.05   | 27-NOV-19 |
| Benzo(a)pyrene                                   |        |                           | <0.050 |           | ug/g  |      | 0.05   | 27-NOV-19 |
| Benzo(b)fluoranthene                             |        |                           | <0.050 |           | ug/g  |      | 0.05   | 27-NOV-19 |
| Benzo(g,h,i)perylene                             |        |                           | <0.050 |           | ug/g  |      | 0.05   | 27-NOV-19 |
| Benzo(k)fluoranthene                             |        |                           | <0.050 |           | ug/g  |      | 0.05   | 27-NOV-19 |
| Chrysene                                         |        |                           | <0.050 |           | ug/g  |      | 0.05   | 27-NOV-19 |



Workorder: L2386575 Report Date: 28-NOV-19 Page 5 of 6

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Michael Shiry

| Test                | Matrix   | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------|----------|-------------|--------|-----------|-------|-----|--------|-----------|
| PAH-511-WT          | Soil     |             |        |           |       |     |        |           |
| Batch R4927         | '129     |             |        |           |       |     |        |           |
| WG3227065-1 M       |          |             |        |           | ,     |     | 0.05   |           |
| Dibenzo(ah)anthra   | cene     |             | <0.050 |           | ug/g  |     | 0.05   | 27-NOV-19 |
| Fluoranthene        |          |             | <0.050 |           | ug/g  |     | 0.05   | 27-NOV-19 |
| Fluorene            |          |             | <0.050 |           | ug/g  |     | 0.05   | 27-NOV-19 |
| Indeno(1,2,3-cd)py  | rene     |             | <0.050 |           | ug/g  |     | 0.05   | 27-NOV-19 |
| Naphthalene         |          |             | <0.013 |           | ug/g  |     | 0.013  | 27-NOV-19 |
| Phenanthrene        |          |             | <0.046 |           | ug/g  |     | 0.046  | 27-NOV-19 |
| Pyrene              |          |             | <0.050 |           | ug/g  |     | 0.05   | 27-NOV-19 |
| Surrogate: 2-Fluoro | biphenyl |             | 93.3   |           | %     |     | 50-140 | 27-NOV-19 |
| Surrogate: p-Terph  | enyl d14 |             | 81.8   |           | %     |     | 50-140 | 27-NOV-19 |
| WG3227065-4 M       | _        | WG3227065-5 |        |           |       |     |        |           |
| 1-Methylnaphthaler  |          |             | 102.1  |           | %     |     | 50-140 | 27-NOV-19 |
| 2-Methylnaphthaler  | ne       |             | 97.1   |           | %     |     | 50-140 | 27-NOV-19 |
| Acenaphthene        |          |             | 102.8  |           | %     |     | 50-140 | 27-NOV-19 |
| Acenaphthylene      |          |             | 103.3  |           | %     |     | 50-140 | 27-NOV-19 |
| Anthracene          |          |             | 104.2  |           | %     |     | 50-140 | 27-NOV-19 |
| Benzo(a)anthracen   | е        |             | 97.7   |           | %     |     | 50-140 | 27-NOV-19 |
| Benzo(a)pyrene      |          |             | 94.7   |           | %     |     | 50-140 | 27-NOV-19 |
| Benzo(b)fluoranthe  | ne       |             | 98.4   |           | %     |     | 50-140 | 27-NOV-19 |
| Benzo(g,h,i)peryler | e        |             | 96.4   |           | %     |     | 50-140 | 27-NOV-19 |
| Benzo(k)fluoranthe  | ne       |             | 100.8  |           | %     |     | 50-140 | 27-NOV-19 |
| Chrysene            |          |             | 111.9  |           | %     |     | 50-140 | 27-NOV-19 |
| Dibenzo(ah)anthra   | cene     |             | 105.2  |           | %     |     | 50-140 | 27-NOV-19 |
| Fluoranthene        |          |             | 93.6   |           | %     |     | 50-140 | 27-NOV-19 |
| Fluorene            |          |             | 101.6  |           | %     |     | 50-140 | 27-NOV-19 |
| Indeno(1,2,3-cd)py  | rene     |             | 97.1   |           | %     |     | 50-140 | 27-NOV-19 |
| Naphthalene         |          |             | 99.99  |           | %     |     | 50-140 | 27-NOV-19 |
| Phenanthrene        |          |             | 99.0   |           | %     |     | 50-140 | 27-NOV-19 |
| Pyrene              |          |             | 96.5   |           | %     |     | 50-140 | 27-NOV-19 |
|                     |          |             |        |           |       |     |        |           |

Workorder: L2386575 Report Date: 28-NOV-19

Client: CH2M HILL CANADA LIMITED Page 6 of 6

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Michael Shiry

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                                                                                 |
|-----------|---------------------------------------------------------------------------------------------|
| DUP-H     | Duplicate results outside ALS DQO, due to sample heterogeneity.                             |
| 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 predetermined 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

L2386575-COFC

COC Number 17 - 820117

Page \ ci i

Canada Toll Free: 1 800 668 9878 www.elsglobal.com w - Contact your AM to confirm all E&P TATs (surcharges may apply) Contact and company name below will appear on the final report Report Format / Report To POF TO FXCFI | ECO (DIGITAL) Select Report Format: Regular [R] ورا عصد 7 Standard TAT # received by 3 pm - guarness days in o surcharges apply Company: M-Sh-4 Quality Control (QC) Report with Report | 🔀 😕 | 😕 4 day [P4-20%] Business day [E - 100%] oniaci: Compare Results to Criteria on Report - provide details below if box checked 3 day [P3-25%] Phone: Same Day, Weekend or Statutory holiday (E2 -200% K EVAIL | MAIL | FAX (Laboratory opening fees may apply) ] Company address below will appear on the final report Select Distribution: 2 day (P2-50%) Date and Time Required for all EAP TATE dd-mmm-yy hh:mm Email for Fax 🞵 Street: or tests that can not be performed according to the service level selected, you will be contacted. City/Province: Email 2 Postal Code: Ema13 Analysis Request 'orlicale Firered (F), Preserved (P) or Fillered ann Preserved (F)P) below 45 A 100 Invoice Distribution Invoice To Same as Report To ON HOLD YES LA | NO K EMAL HOUL : FAX Select Invoice Distribution. Copy of Inveice with Report œ CONTAINE Email for Fax Company: layable Email 2 Contact Project Information Oll and Gas Regulred Fields (client use) ALS Account #1 Quote #: Q72.9%0 AFE/Cost Certer CE751900 Routing Code Major/Minor Code SAMPLES PO / AFE: Ь Reduistioner: SD: Location: NUMBER ALS Lab Work Order # (lab use only): L238 657580 ALS Contact: d Time ALE Sample # á Sample Type (leb use only) (hhrmm) (This description will appear on the report) (ddl-mmm-yy) 21-14-19 BH 208-75-8 1239 RH 208-115-12 BH 210 -35 1245 909 ን BH210-65-7 BH 210 - 10-10.5 ¥ ŧ BM 211 - 5-5.5 1046 BH211 - 10-12 105X RH211 -14-145 ١ llo⊊ SAMPLE CONDITION AS RECEIVED (lab use only) Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below Drinking Water (DW) Samples' (client use) П SJF Observations Νp Frozen Are samples taken from a Regulated DW System? П toe Packs 🔲 los Cubes 🔟 Custody seel intadi Nρ Table I D.L.S | YES | NO Cooling Initiated INITIAL COOLER TEMPERATURES \*C FINAL COOLER TEMPERATURES \*C Are samples for human consumption/ use? YES NO SHIPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (3ab use only) FINAL SHIPMENT RECEPTION (as use only) Received by: Time: WHITE - LABORATORY COPY YELLOW - CHICAT COPY



CH2M HILL CANADA LIMITED

ATTN: MICHAEL SHIRY

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 26-NOV-19

Report Date: 06-DEC-19 12:51 (MT)

Version: FINAL REV. 2

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2387876

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900 C of C Numbers: 17-723445

Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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## **ANALYTICAL GUIDELINE REPORT**

L2387876 CONTD....

Page 2 of 5 06-DEC-19 12:51 (MT)

| Sample Details                                   | Desult          | Ouglifia  | D.1        | l leite      | A                      |         | 06-DEC-19 12:5   |  |
|--------------------------------------------------|-----------------|-----------|------------|--------------|------------------------|---------|------------------|--|
| Grouping Analyte                                 | Result          | Qualifier | D.L.       | Units        | Analyzed               |         | Guideline Limits |  |
| 2387876-1 MW107B                                 | _               |           |            |              |                        |         |                  |  |
| Sampled By: M. SHIRY on 26-NOV-19 @ 08:1         | 0               |           |            |              |                        | #1      |                  |  |
| Matrix: WATER                                    |                 |           |            |              |                        |         |                  |  |
| Dissolved Metals                                 |                 |           |            |              |                        |         |                  |  |
| Dissolved Metals Filtration Location             | FIELD           |           |            | No Unit      | 27-NOV-19              |         |                  |  |
| Antimony (Sb)-Dissolved                          | <1.0            | DLHC      | 1.0        | ug/L         | 27-NOV-19              | 6       |                  |  |
| Arsenic (As)-Dissolved                           | <1.0            | DLHC      | 1.0        | ug/L         | 27-NOV-19              | 25      |                  |  |
| Barium (Ba)-Dissolved                            | 106             | DLHC      | 1.0        | ug/L         | 27-NOV-19              | 1000    |                  |  |
| Beryllium (Be)-Dissolved                         | <1.0            | DLHC      | 1.0        | ug/L         | 27-NOV-19              | 4       |                  |  |
| Boron (B)-Dissolved                              | <100            | DLHC      | 100        | ug/L         | 27-NOV-19              | 5000    |                  |  |
| Cadmium (Cd)-Dissolved                           | 0.075           | DLHC      | 0.050      | ug/L         | 27-NOV-19              | 2.7     |                  |  |
| Chromium (Cr)-Dissolved                          | 5.9             | DLHC      | 5.0        | ug/L         | 27-NOV-19              | 50      |                  |  |
| Cobalt (Co)-Dissolved                            | <1.0            | DLHC      | 1.0        | ug/L         | 27-NOV-19              | 3.8     |                  |  |
| Copper (Cu)-Dissolved                            | <2.0            | DLHC      | 2.0        | ug/L         | 27-NOV-19              | 87      |                  |  |
| Lead (Pb)-Dissolved                              | <0.50           | DLHC      | 0.50       | ug/L         | 27-NOV-19              | 10      |                  |  |
| Molybdenum (Mo)-Dissolved                        | <0.50           | DLHC      | 0.50       | ug/L         | 27-NOV-19              | 70      |                  |  |
| Nickel (Ni)-Dissolved                            | <5.0            | DLHC      | 5.0        | ug/L         | 27-NOV-19              | 100     |                  |  |
| Selenium (Se)-Dissolved                          | 0.97            | DLHC      | 0.50       | ug/L         | 27-NOV-19              | 10      |                  |  |
| Silver (Ag)-Dissolved                            | <0.50           | DLHC      | 0.50       | ug/L         | 27-NOV-19              | 1.5     |                  |  |
| Sodium (Na)-Dissolved                            | 347000          | DLHC      | 500        | ug/L         | 27-NOV-19              | 490000  |                  |  |
| Thallium (TI)-Dissolved                          | <0.10           | DLHC      | 0.10       | ug/L         | 27-NOV-19              | 2       |                  |  |
| Uranium (U)-Dissolved                            | 1.44            | DLHC      | 0.10       | ug/L         | 27-NOV-19              | 20      |                  |  |
| Vanadium (V)-Dissolved                           | <5.0            | DLHC      | 5.0        | ug/L         | 27-NOV-19              | 6.2     |                  |  |
| Zinc (Zn)-Dissolved                              | 14              | DLHC      | 10         | ug/L         | 27-NOV-19              | 1100    |                  |  |
| 2387876-2 MW110A                                 |                 |           |            |              |                        |         |                  |  |
| campled By: M. SHIRY on 26-NOV-19 @ 11:1         | 3               |           |            |              |                        |         |                  |  |
| · · · · · · · · · · · · · · · · · · ·            |                 |           |            |              |                        | #1      |                  |  |
|                                                  |                 |           |            |              |                        |         |                  |  |
| Dissolved Metals                                 |                 |           |            |              |                        |         |                  |  |
| Dissolved Metals Filtration Location             | FIELD           |           |            | No Unit      | 27-NOV-19              |         |                  |  |
| Antimony (Sb)-Dissolved                          | <6              | DLHC      | 6.0        | ug/L         | 27-NOV-19              | 6       |                  |  |
| Arsenic (As)-Dissolved                           | <10             | DLHC      | 10         | ug/L         | 27-NOV-19              | 25      |                  |  |
| Barium (Ba)-Dissolved                            | 708             | DLHC      | 10         | ug/L         | 27-NOV-19              | 1000    |                  |  |
| Beryllium (Be)-Dissolved                         | <4              | DLHC      | 4.0        | ug/L         | 27-NOV-19              | 4       |                  |  |
| Boron (B)-Dissolved                              | <1000           | DLHC      | 1000       | ug/L         | 27-NOV-19              | 5000    |                  |  |
| Cadmium (Cd)-Dissolved                           | 1.26            | DLHC      | 0.50       | ug/L         | 27-NOV-19              | 2.7     |                  |  |
| Chromium (Cr)-Dissolved                          | <50             | DLHC      | 50         | ug/L         | 27-NOV-19              | 50      |                  |  |
| Cobalt (Co)-Dissolved                            | <3.8            | DLHC      | 3.8        | ug/L         | 27-NOV-19              | 3.8     |                  |  |
| Copper (Cu)-Dissolved                            | <20             | DLHC      | 20         | ug/L         | 27-NOV-19              | 87      |                  |  |
| Lead (Pb)-Dissolved                              | <5.0            | DLHC      | 5.0        | ug/L         | 27-NOV-19              | 10      |                  |  |
| Molybdenum (Mo)-Dissolved                        | <5.0            | DLHC      | 5.0        | ug/L         | 27-NOV-19              | 70      |                  |  |
| Nickel (Ni)-Dissolved                            | <50             | DLHC      | 50         | ug/L         | 27-NOV-19              | 100     |                  |  |
| Selenium (Se)-Dissolved                          | <5.0            | DLHC      | 5.0        | ug/L         | 27-NOV-19              | 10      |                  |  |
| Silver (Ag)-Dissolved                            | <1.5            | DLHC      | 1.5        | ug/L         | 27-NOV-19              | 1.5     |                  |  |
| Oliver (Ag) Dissolved                            | 4750000         | DLHC      | 5000       | ug/L         | 27-NOV-19              | *490000 |                  |  |
| Sodium (Na)-Dissolved                            | 4750000         | 520       |            |              |                        |         |                  |  |
|                                                  | 4750000<br><1.0 | DLHC      | 1.0        | ug/L         | 27-NOV-19              | 2       |                  |  |
| Sodium (Na)-Dissolved                            |                 | 1         | 1.0<br>1.0 | ug/L<br>ug/L | 27-NOV-19<br>27-NOV-19 | 2<br>20 |                  |  |
| Sodium (Na)-Dissolved<br>Thallium (TI)-Dissolved | <1.0            | DLHC      |            |              |                        |         |                  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



## **ANALYTICAL GUIDELINE REPORT**

L2387876 CONTD....

Page 3 of 5 06-DEC-19 12:51 (MT)

| CE751900 Sample Details                       |               |              |              |              |                        |           | 06-DEC-19 1      | 2:51 (MT) |
|-----------------------------------------------|---------------|--------------|--------------|--------------|------------------------|-----------|------------------|-----------|
| Sample Details Grouping Analyte               | Result        | Qualifier    | D.L.         | Units        | Analyzed               |           | Guideline Limits |           |
| L2387876-3 MW110B                             |               |              |              |              |                        |           |                  |           |
| Sampled By: M. SHIRY on 26-NOV-19 @ 11:5      | 9             |              |              |              |                        |           |                  |           |
| Matrix: WATER                                 |               |              |              |              |                        | #1        |                  |           |
| Dissolved Metals                              |               |              |              |              |                        |           |                  |           |
| Dissolved Metals Filtration Location          | FIELD         |              |              | No Unit      | 27 NOV 40              |           |                  |           |
| Antimony (Sb)-Dissolved                       | <1.0          | DLHC         | 1.0          | ug/L         | 27-NOV-19<br>27-NOV-19 | 6         |                  |           |
| Arsenic (As)-Dissolved                        | <1.0          | DLHC         | 1.0          | ug/L<br>ug/L | 27-NOV-19              | 25        |                  |           |
| Barium (Ba)-Dissolved                         | 150           | DLHC         | 1.0          | ug/L         | 27-NOV-19              | 1000      |                  |           |
| Beryllium (Be)-Dissolved                      | <1.0          | DLHC         | 1.0          | ug/L         | 27-NOV-19              | 4         |                  |           |
| Boron (B)-Dissolved                           | 110           | DLHC         | 100          | ug/L         | 27-NOV-19              | 5000      |                  |           |
| Cadmium (Cd)-Dissolved                        | 0.080         | DLHC         | 0.050        | ug/L         | 27-NOV-19              | 2.7       |                  |           |
| Chromium (Cr)-Dissolved                       | <5.0          | DLHC         | 5.0          | ug/L         | 27-NOV-19              | 50        |                  |           |
| Cobalt (Co)-Dissolved                         | <1.0          | DLHC         | 1.0          | ug/L         | 27-NOV-19              | 3.8       |                  |           |
| Copper (Cu)-Dissolved                         | 2.4           | DLHC         | 2.0          | ug/L         | 27-NOV-19              | 87        |                  |           |
| Lead (Pb)-Dissolved                           | <0.50         | DLHC         | 0.50         | ug/L         | 27-NOV-19              | 10        |                  |           |
| Molybdenum (Mo)-Dissolved                     | 1.06          | DLHC         | 0.50         | ug/L         | 27-NOV-19              | 70        |                  |           |
| Nickel (Ni)-Dissolved                         | <5.0          | DLHC         | 5.0          | ug/L         | 27-NOV-19              | 100       |                  |           |
| Selenium (Se)-Dissolved                       | 0.68          | DLHC         | 0.50         | ug/L         | 27-NOV-19              | 10        |                  |           |
| Silver (Ag)-Dissolved                         | <0.50         | DLHC         | 0.50         | ug/L         | 27-NOV-19              | 1.5       |                  |           |
| Sodium (Na)-Dissolved                         | 2310000       | DLHC         | 5000         | ug/L         | 27-NOV-19              | *490000   |                  |           |
| Thallium (TI)-Dissolved                       | <0.10         | DLHC         | 0.10         | ug/L         | 27-NOV-19              | 2         |                  |           |
| Uranium (U)-Dissolved                         | 1.47          | DLHC         | 0.10         | ug/L         | 27-NOV-19              | 20        |                  |           |
| Vanadium (V)-Dissolved                        | <5.0          | DLHC         | 5.0          | ug/L         | 27-NOV-19              | 6.2       |                  |           |
| Zinc (Zn)-Dissolved                           | 18            | DLHC         | 10           | ug/L         | 27-NOV-19              | 1100      |                  |           |
| L2387876-4 MW111                              |               |              |              |              |                        |           |                  |           |
| Sampled By: M. SHIRY on 26-NOV-19 @ 09:3      | 0             |              |              |              |                        |           |                  |           |
| Matrix: WATER                                 | O             |              |              |              |                        | #1        |                  |           |
|                                               |               |              |              |              |                        |           |                  |           |
| Dissolved Metals                              |               |              |              |              |                        |           |                  |           |
| Dissolved Metals Filtration Location          | FIELD         | D. 110       | 4.0          | No Unit      | 27-NOV-19              |           |                  |           |
| Antimony (Sb)-Dissolved                       | <1.0          | DLHC         | 1.0          | ug/L         | 27-NOV-19              | 6         |                  |           |
| Arsenic (As)-Dissolved                        | <1.0          | DLHC         | 1.0          | ug/L         | 27-NOV-19              | 25        |                  |           |
| Barium (Ba)-Dissolved                         | 105           | DLHC         | 1.0          | ug/L         | 27-NOV-19              | 1000      |                  |           |
| Beryllium (Be)-Dissolved                      | <1.0          | DLHC         | 1.0          | ug/L         | 27-NOV-19              | 4         |                  |           |
| Boron (B)-Dissolved                           | 200           | DLHC         | 100          | ug/L         | 27-NOV-19              | 5000      |                  |           |
| Cadmium (Cd)-Dissolved                        | <0.050        | DLHC         | 0.050        | ug/L         | 27-NOV-19              | 2.7       |                  |           |
| Chromium (Cr)-Dissolved                       | 8.1           | DLHC         | 5.0          | ug/L         | 27-NOV-19              | 50        |                  |           |
| Cobalt (Co)-Dissolved                         | <1.0          | DLHC         | 1.0          | ug/L         | 27-NOV-19              | 3.8       |                  |           |
| Copper (Cu)-Dissolved                         | 4.0           | DLHC         | 2.0          | ug/L         | 27-NOV-19              | 87        |                  |           |
| Lead (Pb)-Dissolved Molybdenum (Mo)-Dissolved | <0.50<br>1.00 | DLHC<br>DLHC | 0.50         | ug/L         | 27-NOV-19<br>27-NOV-19 | 10        |                  |           |
| Nickel (Ni)-Dissolved                         | <5.0          | DLHC         | 0.50<br>5.0  | ug/L         | 27-NOV-19<br>27-NOV-19 | 70<br>100 |                  |           |
|                                               |               | 1            |              | ug/L         |                        |           |                  |           |
| Selenium (Se)-Dissolved Silver (Ag)-Dissolved | 0.86<br><0.50 | DLHC<br>DLHC | 0.50<br>0.50 | ug/L         | 27-NOV-19<br>27-NOV-19 | 10<br>1.5 |                  |           |
|                                               | 2490000       | DLHC         | 5000         | ug/L         | 27-NOV-19<br>27-NOV-19 | 1.5       |                  |           |
| Sodium (Na)-Dissolved Thallium (TI)-Dissolved | <0.10         | DLHC         | 0.10         | ug/L         | 27-NOV-19<br>27-NOV-19 | *490000   |                  |           |
| Uranium (U)-Dissolved                         | 1.59          | DLHC         | 0.10         | ug/L         | 27-NOV-19<br>27-NOV-19 | 2         |                  |           |
| Vanadium (V)-Dissolved                        | <5.0          | DLHC         |              | ug/L         | 27-NOV-19<br>27-NOV-19 | 20        |                  |           |
| • •                                           |               | 1            | 5.0          | ug/L         |                        | 6.2       |                  |           |
| Zinc (Zn)-Dissolved                           | <10           | DLHC         | 10           | ug/L         | 27-NOV-19              | 1100      |                  |           |
|                                               |               |              |              |              |                        |           |                  |           |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



L2387876 CONTD....

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| CE751900                             |         |           |       |         |           |         | 06-DEC-19 12:51 (MT) |
|--------------------------------------|---------|-----------|-------|---------|-----------|---------|----------------------|
| Sample Details Grouping Analyte      | Result  | Qualifier | D.L.  | Units   | Analyzed  |         | Guideline Limits     |
| L2387876-5 DUP                       |         |           |       |         |           |         |                      |
| Sampled By: M. SHIRY on 26-NOV-19    |         |           |       |         |           |         |                      |
| Matrix: WATER                        |         |           |       |         |           | #1      |                      |
| Dissolved Metals                     |         |           |       |         |           |         |                      |
| Dissolved Metals Filtration Location | FIELD   |           |       | No Unit | 27-NOV-19 |         |                      |
| Antimony (Sb)-Dissolved              | <1.0    | DLHC      | 1.0   | ug/L    | 27-NOV-19 | 6       |                      |
| Arsenic (As)-Dissolved               | <1.0    | DLHC      | 1.0   | ug/L    | 27-NOV-19 | 25      |                      |
| Barium (Ba)-Dissolved                | 147     | DLHC      | 1.0   | ug/L    | 27-NOV-19 | 1000    |                      |
| Beryllium (Be)-Dissolved             | <1.0    | DLHC      | 1.0   | ug/L    | 27-NOV-19 | 4       |                      |
| Boron (B)-Dissolved                  | 110     | DLHC      | 100   | ug/L    | 27-NOV-19 | 5000    |                      |
| Cadmium (Cd)-Dissolved               | 0.105   | DLHC      | 0.050 | ug/L    | 27-NOV-19 | 2.7     |                      |
| Chromium (Cr)-Dissolved              | <5.0    | DLHC      | 5.0   | ug/L    | 27-NOV-19 | 50      |                      |
| Cobalt (Co)-Dissolved                | <1.0    | DLHC      | 1.0   | ug/L    | 27-NOV-19 | 3.8     |                      |
| Copper (Cu)-Dissolved                | 2.9     | DLHC      | 2.0   | ug/L    | 27-NOV-19 | 87      |                      |
| Lead (Pb)-Dissolved                  | <0.50   | DLHC      | 0.50  | ug/L    | 27-NOV-19 | 10      |                      |
| Molybdenum (Mo)-Dissolved            | 0.98    | DLHC      | 0.50  | ug/L    | 27-NOV-19 | 70      |                      |
| Nickel (Ni)-Dissolved                | <5.0    | DLHC      | 5.0   | ug/L    | 27-NOV-19 | 100     |                      |
| Selenium (Se)-Dissolved              | 0.80    | DLHC      | 0.50  | ug/L    | 27-NOV-19 | 10      |                      |
| Silver (Ag)-Dissolved                | < 0.50  | DLHC      | 0.50  | ug/L    | 27-NOV-19 | 1.5     |                      |
| Sodium (Na)-Dissolved                | 2360000 | DLHC      | 5000  | ug/L    | 27-NOV-19 | *490000 |                      |
| Thallium (TI)-Dissolved              | <0.10   | DLHC      | 0.10  | ug/L    | 27-NOV-19 | 2       |                      |
| Uranium (U)-Dissolved                | 1.43    | DLHC      | 0.10  | ug/L    | 27-NOV-19 | 20      |                      |
| Vanadium (V)-Dissolved               | <5.0    | DLHC      | 5.0   | ug/L    | 27-NOV-19 | 6.2     |                      |
| Zinc (Zn)-Dissolved                  | 19      | DLHC      | 10    | ug/L    | 27-NOV-19 | 1100    |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |
|                                      |         |           |       |         |           |         |                      |

<sup>\*\*</sup> 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:

#### **Reference Information**

Sample Parameter Qualifier key listed:

| Qualifier      | Description                                                                             |                                |                     |  |  |  |  |  |  |  |
|----------------|-----------------------------------------------------------------------------------------|--------------------------------|---------------------|--|--|--|--|--|--|--|
| DLHC           | Detection Limit Raised: Dilution required due to high concentration of test analyte(s). |                                |                     |  |  |  |  |  |  |  |
| Methods Listed | (if applicable):                                                                        |                                |                     |  |  |  |  |  |  |  |
| ALS Test Code  | Matrix                                                                                  | Test Description               | Method Reference*** |  |  |  |  |  |  |  |
| MET-D-UG/L-MS  | G-WT Water                                                                              | Diss. Metals in Water by ICPMS | 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).

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

Chain of Custody numbers:

17-723445

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,<br>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.



Workorder: L2387876 Report Date: 06-DEC-19 Page 1 of 4

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

| Test                   | Matrix   | Reference  | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------|----------|------------|---------|-----------|-------|-----|--------|-----------|
| MET-D-UG/L-MS-WT       | Water    |            |         |           |       |     |        |           |
| Batch R492752          | 23       |            |         |           |       |     |        |           |
| WG3229139-4 DUF        |          | WG3229139- |         |           |       |     |        |           |
| Antimony (Sb)-Dissol   |          | 0.21       | 0.21    |           | ug/L  | 0.6 | 20     | 28-NOV-19 |
| Arsenic (As)-Dissolve  |          | 0.71       | 0.70    |           | ug/L  | 1.3 | 20     | 28-NOV-19 |
| Barium (Ba)-Dissolve   |          | 147        | 149     |           | ug/L  | 1.6 | 20     | 28-NOV-19 |
| Beryllium (Be)-Dissol  | ved      | <0.10      | <0.10   | RPD-NA    | ug/L  | N/A | 20     | 28-NOV-19 |
| Boron (B)-Dissolved    |          | 28         | 28      |           | ug/L  | 1.5 | 20     | 28-NOV-19 |
| Cadmium (Cd)-Disso     |          | 0.0119     | 0.0132  |           | ug/L  | 10  | 20     | 28-NOV-19 |
| Chromium (Cr)-Disso    | lved     | <0.50      | <0.50   | RPD-NA    | ug/L  | N/A | 20     | 28-NOV-19 |
| Cobalt (Co)-Dissolved  | d        | 0.14       | 0.15    |           | ug/L  | 6.8 | 20     | 28-NOV-19 |
| Copper (Cu)-Dissolve   | ed       | 1.66       | 1.64    |           | ug/L  | 0.9 | 20     | 28-NOV-19 |
| Lead (Pb)-Dissolved    |          | 0.598      | 0.599   |           | ug/L  | 0.1 | 20     | 28-NOV-19 |
| Molybdenum (Mo)-Di     | ssolved  | 1.82       | 1.83    |           | ug/L  | 0.5 | 20     | 28-NOV-19 |
| Nickel (Ni)-Dissolved  |          | 1.06       | 1.05    |           | ug/L  | 1.2 | 20     | 28-NOV-19 |
| Selenium (Se)-Dissol   | ved      | 0.243      | 0.240   |           | ug/L  | 1.2 | 20     | 28-NOV-19 |
| Silver (Ag)-Dissolved  |          | < 0.050    | < 0.050 | RPD-NA    | ug/L  | N/A | 20     | 28-NOV-19 |
| Sodium (Na)-Dissolve   | ed       | 24400      | 24300   |           | ug/L  | 0.7 | 20     | 28-NOV-19 |
| Thallium (TI)-Dissolve | ed       | 0.011      | <0.010  | RPD-NA    | ug/L  | N/A | 20     | 28-NOV-19 |
| Uranium (U)-Dissolve   | ed       | 1.63       | 1.68    |           | ug/L  | 2.6 | 20     | 28-NOV-19 |
| Vanadium (V)-Dissolv   | /ed      | 1.10       | 1.05    |           | ug/L  | 4.3 | 20     | 28-NOV-19 |
| Zinc (Zn)-Dissolved    |          | 4.0        | 3.8     |           | ug/L  | 4.1 | 20     | 28-NOV-19 |
| WG3229139-2 LCS        | <b>3</b> |            |         |           |       |     |        |           |
| Antimony (Sb)-Dissol   | ved      |            | 99.4    |           | %     |     | 80-120 | 27-NOV-19 |
| Arsenic (As)-Dissolve  | ed       |            | 101.9   |           | %     |     | 80-120 | 27-NOV-19 |
| Barium (Ba)-Dissolve   | d        |            | 101.7   |           | %     |     | 80-120 | 27-NOV-19 |
| Beryllium (Be)-Dissol  | ved      |            | 97.1    |           | %     |     | 80-120 | 27-NOV-19 |
| Boron (B)-Dissolved    |          |            | 96.3    |           | %     |     | 80-120 | 27-NOV-19 |
| Cadmium (Cd)-Disso     | lved     |            | 102.5   |           | %     |     | 80-120 | 27-NOV-19 |
| Chromium (Cr)-Disso    | lved     |            | 103.6   |           | %     |     | 80-120 | 27-NOV-19 |
| Cobalt (Co)-Dissolved  | d        |            | 99.8    |           | %     |     | 80-120 | 27-NOV-19 |
| Copper (Cu)-Dissolve   | ed       |            | 101.2   |           | %     |     | 80-120 | 27-NOV-19 |
| Lead (Pb)-Dissolved    |          |            | 102.8   |           | %     |     | 80-120 | 27-NOV-19 |
| Molybdenum (Mo)-Di     | ssolved  |            | 99.0    |           | %     |     | 80-120 | 27-NOV-19 |
| Nickel (Ni)-Dissolved  |          |            | 101.4   |           | %     |     | 80-120 | 27-NOV-19 |
| Selenium (Se)-Dissol   | ved      |            | 99.6    |           | %     |     | 80-120 | 27-NOV-19 |
|                        |          |            |         |           |       |     |        |           |



Workorder: L2387876 Report Date: 06-DEC-19 Page 2 of 4

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

| Teet                                     | Matrice | Deference   | Descrit      | Ougliffer | l luit- | DDD | l ime!# | Analyzasi              |
|------------------------------------------|---------|-------------|--------------|-----------|---------|-----|---------|------------------------|
| Test                                     | Matrix  | Reference   | Result       | Qualifier | Units   | RPD | Limit   | Analyzed               |
| MET-D-UG/L-MS-WT                         | Water   |             |              |           |         |     |         |                        |
| Batch R4927523                           | 3       |             |              |           |         |     |         |                        |
| WG3229139-2 LCS<br>Silver (Ag)-Dissolved |         |             | 102.9        |           | %       |     | 80-120  | 27-NOV-19              |
| Sodium (Na)-Dissolved                    | 4       |             | 104.2        |           | %       |     | 80-120  | 27-NOV-19<br>27-NOV-19 |
| Thallium (TI)-Dissolved                  |         |             | 101.3        |           | %       |     | 80-120  | 27-NOV-19<br>27-NOV-19 |
| Uranium (U)-Dissolved                    |         |             | 102.4        |           | %       |     | 80-120  | 27-NOV-19              |
| Vanadium (V)-Dissolve                    |         |             | 104.4        |           | %       |     | 80-120  | 27-NOV-19              |
| Zinc (Zn)-Dissolved                      |         |             | 102.2        |           | %       |     | 80-120  | 27-NOV-19              |
| WG3229139-1 MB                           |         |             |              |           |         |     | 00 .20  | 27 110 7 10            |
| Antimony (Sb)-Dissolv                    | ed      |             | <0.10        |           | ug/L    |     | 0.1     | 27-NOV-19              |
| Arsenic (As)-Dissolved                   | I       |             | <0.10        |           | ug/L    |     | 0.1     | 27-NOV-19              |
| Barium (Ba)-Dissolved                    |         |             | <0.10        |           | ug/L    |     | 0.1     | 27-NOV-19              |
| Beryllium (Be)-Dissolve                  | ed      |             | <0.10        |           | ug/L    |     | 0.1     | 27-NOV-19              |
| Boron (B)-Dissolved                      |         |             | <10          |           | ug/L    |     | 10      | 27-NOV-19              |
| Cadmium (Cd)-Dissolv                     | ved .   |             | <0.0050      |           | ug/L    |     | 0.005   | 27-NOV-19              |
| Chromium (Cr)-Dissolv                    | /ed     |             | <0.50        |           | ug/L    |     | 0.5     | 27-NOV-19              |
| Cobalt (Co)-Dissolved                    |         |             | <0.10        |           | ug/L    |     | 0.1     | 27-NOV-19              |
| Copper (Cu)-Dissolved                    | d       |             | <0.20        |           | ug/L    |     | 0.2     | 27-NOV-19              |
| Lead (Pb)-Dissolved                      |         |             | < 0.050      |           | ug/L    |     | 0.05    | 27-NOV-19              |
| Molybdenum (Mo)-Disa                     | solved  |             | < 0.050      |           | ug/L    |     | 0.05    | 27-NOV-19              |
| Nickel (Ni)-Dissolved                    |         |             | <0.50        |           | ug/L    |     | 0.5     | 27-NOV-19              |
| Selenium (Se)-Dissolv                    | ed      |             | <0.050       |           | ug/L    |     | 0.05    | 27-NOV-19              |
| Silver (Ag)-Dissolved                    |         |             | <0.050       |           | ug/L    |     | 0.05    | 27-NOV-19              |
| Sodium (Na)-Dissolved                    | t       |             | <50          |           | ug/L    |     | 50      | 27-NOV-19              |
| Thallium (TI)-Dissolved                  | t       |             | <0.010       |           | ug/L    |     | 0.01    | 27-NOV-19              |
| Uranium (U)-Dissolved                    | İ       |             | <0.010       |           | ug/L    |     | 0.01    | 27-NOV-19              |
| Vanadium (V)-Dissolve                    | ed      |             | <0.50        |           | ug/L    |     | 0.5     | 27-NOV-19              |
| Zinc (Zn)-Dissolved                      |         |             | <1.0         |           | ug/L    |     | 1       | 27-NOV-19              |
| WG3229139-5 MS                           | 1       | WG3229139-6 | 07.0         |           | 0/      |     |         |                        |
| Antimony (Sb)-Dissolv                    |         |             | 97.9         |           | %       |     | 70-130  | 27-NOV-19              |
| Arsenic (As)-Dissolved                   |         |             | 100.0        | MC D      | %       |     | 70-130  | 27-NOV-19              |
| Barium (Ba)-Dissolved                    |         |             | N/A<br>100.4 | MS-B      | %       |     | -       | 27-NOV-19              |
| Beryllium (Be)-Dissolve                  |         |             | 100.4        |           | %       |     | 70-130  | 27-NOV-19              |
| Cadmium (Cd)-Dissolv                     |         |             | 94.1         |           | %       |     | 70-130  | 27-NOV-19              |
| Chromium (Cr)-Dissolv                    | /ed     |             | 96.8         |           | %       |     | 70-130  | 27-NOV-19              |
| Cobalt (Co)-Dissolved                    |         |             | 86.6         |           | %       |     | 70-130  | 27-NOV-19              |



Workorder: L2387876 Report Date: 06-DEC-19 Page 3 of 4

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

| Test                   | Matrix  | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------|---------|------------|--------|-----------|-------|-----|--------|-----------|
| MET-D-UG/L-MS-WT       | Water   |            |        |           |       |     |        |           |
| Batch R492752          | 23      |            |        |           |       |     |        |           |
| WG3229139-5 MS         |         | WG3229139- | 6      |           |       |     |        |           |
| Copper (Cu)-Dissolve   | d       |            | 90.5   |           | %     |     | 70-130 | 27-NOV-19 |
| Lead (Pb)-Dissolved    |         |            | 94.0   |           | %     |     | 70-130 | 27-NOV-19 |
| Molybdenum (Mo)-Dis    | ssolved |            | 76.7   |           | %     |     | 70-130 | 27-NOV-19 |
| Nickel (Ni)-Dissolved  |         |            | 88.4   |           | %     |     | 70-130 | 27-NOV-19 |
| Selenium (Se)-Dissolv  | ved     |            | 103.9  |           | %     |     | 70-130 | 27-NOV-19 |
| Silver (Ag)-Dissolved  |         |            | 94.6   |           | %     |     | 70-130 | 27-NOV-19 |
| Sodium (Na)-Dissolve   | ed      |            | N/A    | MS-B      | %     |     | -      | 27-NOV-19 |
| Thallium (TI)-Dissolve | ed      |            | 91.3   |           | %     |     | 70-130 | 27-NOV-19 |
| Uranium (U)-Dissolve   | d       |            | N/A    | MS-B      | %     |     | -      | 27-NOV-19 |
| Vanadium (V)-Dissolv   | red .   |            | 100.9  |           | %     |     | 70-130 | 27-NOV-19 |
| Zinc (Zn)-Dissolved    |         |            | 73.7   |           | %     |     | 70-130 | 27-NOV-19 |
|                        |         |            |        |           |       |     |        |           |

Workorder: L2387876 Report Date: 06-DEC-19

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

#### 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                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------|
| 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.        |

#### **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 predetermined 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.

Page 4 of 4

# Environmental

#### Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 17 - 723445

L2387676-COFC

Page { cf {



|                                                  | www.aisqiobai.com                                     |                                                    |                                         |                       | ·-             | _                |                                                                                                                                                                                 |                                                  |                        | · ^           |               | - 411 4- 4     | الم محد        | E C D TA        | Ta (ausel     |                                               | au ann         | lu\         | $\neg$                                  |
|--------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|-----------------------------------------|-----------------------|----------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------|---------------|---------------|----------------|----------------|-----------------|---------------|-----------------------------------------------|----------------|-------------|-----------------------------------------|
| Report To                                        | Contact and company name below will appear on the fin |                                                    | Report Format                           |                       |                | ₩                | Select Service Level Below - Contact your AM to confirm all E&P TATe (surcharges may apply)  Regular [R] Signdand TAT if received by 3 pm - business days - no surcharges apply |                                                  |                        |               |               |                |                |                 |               |                                               |                |             |                                         |
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|                                                  | Company address below will appear on the final report | Select Distribu                                    | tion: MEMAL                             | MAJL                  | FAX            |                  |                                                                                                                                                                                 | (P2-50                                           | <u> </u>               |               | <u> </u>      | ratory o       | pening fo      | 999 ma          | , abbili      | <u>,                                     </u> |                |             |                                         |
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| City/Province:                                   |                                                       | Email 2 E                                          | L. Taves E                              | الاحدادة الأ          | e              | For see          | rts thad ea                                                                                                                                                                     | n nơi be pa                                      | no za <b>n ba</b> mpon |               | mercica level | assected, ye   | w will be co   | الطاعماه        |               |                                               |                |             | <b>ᆜ</b>                                |
| Postal Code:                                     |                                                       | Email 3 长                                          | ythours of                              | ople b. a             | Mechs on       |                  |                                                                                                                                                                                 |                                                  |                        |               |               |                | _              | ъ 1             | ightharpoonup |                                               |                |             |                                         |
| Invoice To S                                     | Seme as Report To                                     |                                                    | Invoice Di                              | stribution            |                |                  | _                                                                                                                                                                               | nde                                              | ate Filtered (F        | k Preserve    | o (P) or F#   | tered and A    | reserved (F    | /P; below       | ·             |                                               |                | detall      |                                         |
|                                                  | Copy of invoice with Report   YES   NO                | Select Invoice                                     | Distribution: 🕡 E                       | WAIL NAIL             | FAX            |                  | 1                                                                                                                                                                               |                                                  | T- 1                   |               |               |                |                |                 |               |                                               | ı              | 1           |                                         |
| Company:                                         | 1 1 0 1                                               | / Email 1 or Fax                                   | <b></b>                                 |                       |                | $\Box$           | 157                                                                                                                                                                             |                                                  |                        |               |               |                |                |                 |               |                                               |                | further     | LΙ                                      |
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| LSD:                                             |                                                       | Location:                                          |                                         |                       |                | 1,               |                                                                                                                                                                                 |                                                  |                        |               |               |                |                |                 | ļ             |                                               | HOLD           | \$          | Ĕ                                       |
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| ALS Lab Work                                     | k Onder# (lab use only): [ ] 3 5,787 6                | ALS Contact:                                       | Emily H                                 | Sampler: M            | . Sh.~         | 1.5              |                                                                                                                                                                                 |                                                  |                        | 1             |               |                |                |                 |               | ł                                             | 8              | <u> 2</u>   | NUMBER OF                               |
|                                                  |                                                       | <del>, ,                                    </del> | Date                                    |                       | <del>'</del>   | $\mathbb{T}$     |                                                                                                                                                                                 |                                                  |                        |               |               |                |                |                 |               |                                               | 🖫              | 힅           | ₿                                       |
| ALS Semple #                                     | Sample Identification and/or (                        |                                                    | (dd-mman-yy)                            | Time<br>(hh:mm)       | Sample Type    |                  |                                                                                                                                                                                 |                                                  |                        |               |               |                |                |                 |               |                                               | SAMPLES        | şample      | § 7                                     |
| 1,200                                            | (This description will appear or                      | i the report)                                      |                                         |                       | 1.5.3          | 10               | +                                                                                                                                                                               | -                                                | $\rightarrow$          | +             | +-            |                | -              | ┿━┼             | $\dashv$      | +                                             | <u>"</u>       |             | 1                                       |
| <b></b>                                          | MWIOTB                                                |                                                    | 26-NJ-19                                | 310                   | Mayor          | 1 F              | <b> </b>                                                                                                                                                                        |                                                  | <del></del>            | +             | +             | <del>- +</del> | $+\!-$         | ╁╾┦             | +             | ┿╾                                            | Н              |             | ╎                                       |
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| i I                                              | MwiloB                                                |                                                    | i i                                     | \LST9                 |                | ¥                |                                                                                                                                                                                 |                                                  |                        |               |               | $\sqcup$       |                |                 |               |                                               | Ш              | $\Box$      |                                         |
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| Odnbina                                          | g Water (DW) Samples' (client use)                    | cial Instructions / Specify Criteria               | to add on report by clic                | king on the drop-d    | own list below | ⊢                |                                                                                                                                                                                 |                                                  | _                      |               |               |                | ECEIVED<br>Yes | _               |               |                                               | _              | _           | 7/1                                     |
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| -                                                | from a Regulated DW System?                           |                                                    |                                         |                       |                | 1                | Pecks                                                                                                                                                                           |                                                  | ca Cubes               | F INCO        | stocky wa     | sal intact     | Yes            |                 | J             | No                                            |                | E           | الـــــــــــــــــــــــــــــــــــــ |
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| Are samples for hu                               | uman'consumption/ use?                                |                                                    |                                         |                       |                | ļ                |                                                                                                                                                                                 | NIFTIAL C                                        | OOLER TEM              | ERATURE       | 840           | <del></del>    | 1              | FINAL           | COOLER        | EMPERAT                                       | UHEST          | <del></del> |                                         |
| vie                                              | s   <del>y</del>   но                                 |                                                    |                                         | _                     |                |                  |                                                                                                                                                                                 | <u> </u>                                         |                        |               |               |                | (0)            | $\cdot 2$       |               |                                               |                |             |                                         |
|                                                  | 3 SHIPMENT RELEASE (client use)                       |                                                    |                                         | NT RECEPTION (I       | eb use only)   |                  |                                                                                                                                                                                 |                                                  |                        | FIN           | IAL SHI       |                | HECEPT         | ION (M          | b use/61      | ily)                                          | I <del>T</del> |             |                                         |
|                                                  |                                                       |                                                    |                                         |                       |                |                  |                                                                                                                                                                                 |                                                  |                        |               |               |                |                |                 |               |                                               |                |             |                                         |
| Released by:                                     | 1. Shy 2019/11/24                                     | Time: Received by:                                 |                                         | Olifo:                |                | Tkee             | 0:                                                                                                                                                                              | Receiv                                           | *****//                | _             |               | Dante:         | 116            | _フ/             | //م           | 9                                             | INITE          | 11          | s:t                                     |

Failure to complete all portions of this form may datay enablass. Please fill in this form LEGIBLY By the use of this form the user addrowledges and agrees with the Terms and Conditions as specified on the back page of the white infection copy.

<sup>1</sup> It any water samples are taken from a Regulated Drinking Water (DW). System, please submit using an Authorised DW CCC form



CH2M HILL CANADA LIMITED

ATTN: Michael Shiry

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 20-DEC-19

Report Date: 20-JAN-20 08:56 (MT)

Version: DRAFT REV. 2

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2399298

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900

C of C Numbers: 17-723815

Legal Site Desc:

Comments:

Emily Hansen Account Manager

[This report shall not be reproduced except in full without the written authority of the Laboratory.]

ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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## **ANALYTICAL GUIDELINE REPORT**

L2399298 CONTD....

Page 2 of 38 20-JAN-20 08:56 (MT)

| CE751900 Sample Details                                                    |              |           |        |              |                        |       | 20-JAN-20 (      | 08:56 (MT) |
|----------------------------------------------------------------------------|--------------|-----------|--------|--------------|------------------------|-------|------------------|------------|
| Sample Details Grouping Analyte                                            | Result       | Qualifier | D.L.   | Units        | Analyzed               |       | Guideline Limits |            |
| L2399298-1 MW100                                                           |              |           |        |              |                        |       |                  |            |
| Sampled By: V.PETERS on 19-DEC-19 @ 14                                     | J:2C         |           |        |              |                        |       |                  |            |
| Matrix: WATER                                                              |              |           |        |              |                        | #1    |                  |            |
| Physical Toots                                                             |              |           |        |              |                        |       |                  |            |
| Physical Tests                                                             | 00.0         |           | 0.0000 | 0/222        | 04 DE0 40              |       |                  |            |
| Conductivity<br>pH                                                         | 23.0<br>7.82 | LITE      | 0.0030 | mS/cm        | 21-DEC-19              |       |                  |            |
| P⊓<br>Anions and Nutrients                                                 | 7.02         | HTD       | 0.10   | pH units     | 23-DEC-19              |       |                  |            |
| Chloride (CI)                                                              | 8010         | DLHC      | 50     | mg/L         | 27-DEC-19              | *790  |                  |            |
| Cyanides (Ci)                                                              | 8010         | DLITC     | 30     | IIIg/L       | 27-020-19              | 790   |                  |            |
| Cyanide, Weak Acid Diss                                                    | <2.0         |           | 2.0    | ua/I         | 20-DEC-19              | 66    |                  |            |
| Dissolved Metals                                                           | <2.0         |           | 2.0    | ug/L         | 20-DEC-19              | 00    |                  |            |
|                                                                            | FIELD        |           |        | No Unit      | 23-DEC-19              |       |                  |            |
| Dissolved Mercury Filtration Location Dissolved Metals Filtration Location | FIELD        |           |        | No Unit      | 20-DEC-19              |       |                  |            |
| Barium (Ba)-Dissolved                                                      | 392          | DLHC      | 10     | ug/L         | 20-DEC-19<br>23-DEC-19 | 1000  |                  |            |
| Beryllium (Be)-Dissolved                                                   | <10          | DLHC      | 10     | ug/L         | 23-DEC-19              | **4   |                  |            |
| Boron (B)-Dissolved                                                        | <1000        | DLHC      | 1000   | ug/L<br>ug/L | 23-DEC-19              | 5000  |                  |            |
| Cadmium (Cd)-Dissolved                                                     | 0.72         | DLHC      | 0.50   | ug/L         | 23-DEC-19              | 2.7   |                  |            |
| Chromium (Cr)-Dissolved                                                    | <50          | DLHC      | 50     | ug/L         | 23-DEC-19              | 50    |                  |            |
| Cobalt (Co)-Dissolved                                                      | <10          | DLHC      | 10     | ug/L         | 23-DEC-19              | **3.8 |                  |            |
| Copper (Cu)-Dissolved                                                      | <20          | DLHC      | 20     | ug/L         | 23-DEC-19              | 87    |                  |            |
| Lead (Pb)-Dissolved                                                        | <5.0         | DLHC      | 5.0    | ug/L         | 23-DEC-19              | 10    |                  |            |
| Mercury (Hg)-Dissolved                                                     | <0.0050      |           | 0.0050 | ug/L         | 23-DEC-19              | 0.29  |                  |            |
| Molybdenum (Mo)-Dissolved                                                  | <5.0         | DLHC      | 5.0    | ug/L         | 23-DEC-19              | 70    |                  |            |
| Nickel (Ni)-Dissolved                                                      | <50          | DLHC      | 50     | ug/L         | 23-DEC-19              | 100   |                  |            |
| Silver (Ag)-Dissolved                                                      | <5.0         | DLHC      | 5.0    | ug/L         | 23-DEC-19              | **1.5 |                  |            |
| Thallium (TI)-Dissolved                                                    | <1.0         | DLHC      | 1.0    | ug/L         | 23-DEC-19              | 2     |                  |            |
| Uranium (U)-Dissolved                                                      | <1.0         | DLHC      | 1.0    | ug/L         | 23-DEC-19              | 20    |                  |            |
| Vanadium (V)-Dissolved                                                     | <50          | DLHC      | 50     | ug/L         | 23-DEC-19              | **6.2 |                  |            |
| Zinc (Zn)-Dissolved                                                        | <100         | DLHC      | 100    | ug/L         | 23-DEC-19              | 1100  |                  |            |
| Speciated Metals                                                           |              |           |        |              |                        |       |                  |            |
| Chromium, Hexavalent                                                       | 4.15         |           | 0.50   | ug/L         | 23-DEC-19              | 25    |                  |            |
| Volatile Organic Compounds                                                 |              |           |        |              |                        |       |                  |            |
| Acetone                                                                    | <30          |           | 30     | ug/L         | 27-DEC-19              | 2700  |                  |            |
| Benzene                                                                    | <0.50        |           | 0.50   | ug/L         | 27-DEC-19              | 5     |                  |            |
| Bromodichloromethane                                                       | <2.0         |           | 2.0    | ug/L         | 27-DEC-19              | 16    |                  |            |
| Bromoform                                                                  | <5.0         |           | 5.0    | ug/L         | 27-DEC-19              | 25    |                  |            |
| Bromomethane                                                               | <0.50        |           | 0.50   | ug/L         | 27-DEC-19              | 0.89  |                  |            |
| Carbon tetrachloride                                                       | <0.20        |           | 0.20   | ug/L         | 27-DEC-19              | 0.79  |                  |            |
| Chlorobenzene                                                              | <0.50        |           | 0.50   | ug/L         | 27-DEC-19              | 30    |                  |            |
| Dibromochloromethane                                                       | <2.0         |           | 2.0    | ug/L         | 27-DEC-19              | 25    |                  |            |
| Chloroform                                                                 | <1.0         |           | 1.0    | ug/L         | 27-DEC-19              | 2.4   |                  |            |
| 1,2-Dibromoethane                                                          | <0.20        |           | 0.20   | ug/L         | 27-DEC-19              | 0.2   |                  |            |
| 1,2-Dichlorobenzene                                                        | <0.50        |           | 0.50   | ug/L         | 27-DEC-19              | 3     |                  |            |
| 1,3-Dichlorobenzene                                                        | <0.50        |           | 0.50   | ug/L         | 27-DEC-19              | 59    |                  |            |
| 1,4-Dichlorobenzene                                                        | <0.50        |           | 0.50   | ug/L         | 27-DEC-19              | 1     |                  |            |
| Dichlorodifluoromethane                                                    | <2.0         |           | 2.0    | ug/L         | 27-DEC-19              | 590   |                  |            |
| 1,1-Dichloroethane                                                         | <0.50        |           | 0.50   | ug/L         | 27-DEC-19              | 5     |                  |            |
| 1,2-Dichloroethane                                                         | <0.50        |           | 0.50   | ug/L         | 27-DEC-19              | 1.6   |                  |            |
| 1,1-Dichloroethylene                                                       | <0.50        |           | 0.50   | ug/L         | 27-DEC-19              | 1.6   |                  |            |
|                                                                            |              |           | 1      |              |                        |       |                  |            |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



## **ANALYTICAL GUIDELINE REPORT**

L2399298 CONTD....

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| CE751900                                                        |                |           |                  |         |                        |      | 20-JAN-20 08:5   | 6 (MT) |
|-----------------------------------------------------------------|----------------|-----------|------------------|---------|------------------------|------|------------------|--------|
| Sample Details<br>Grouping Analyte                              | Result         | Qualifier | D.L.             | Units   | Analyzed               |      | Guideline Limits |        |
| L2399298-1 MW100                                                |                |           |                  |         |                        |      |                  |        |
| Sampled By: V.PETERS on 19-DEC-19 @ 1                           | 14:20          |           |                  |         |                        |      |                  |        |
| Matrix: WATER                                                   |                |           |                  |         |                        | #1   |                  |        |
|                                                                 |                |           |                  |         |                        |      |                  |        |
| Volatile Organic Compounds                                      | 0.50           |           | 0.50             |         | 07 DEO 40              | 4.0  |                  |        |
| cis-1,2-Dichloroethylene                                        | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 1.6  |                  |        |
| trans-1,2-Dichloroethylene                                      | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 1.6  |                  |        |
| Methylene Chloride                                              | <5.0           |           | 5.0              | ug/L    | 27-DEC-19              | 50   |                  |        |
| 1,2-Dichloropropane                                             | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 5    |                  |        |
| cis-1,3-Dichloropropene                                         | <0.30          |           | 0.30             | ug/L    | 27-DEC-19              |      |                  |        |
| trans-1,3-Dichloropropene                                       | <0.30          |           | 0.30             | ug/L    | 27-DEC-19<br>27-DEC-19 | 0.5  |                  |        |
| 1,3-Dichloropropene (cis & trans)                               | <0.50<br><0.50 |           | 0.50<br>0.50     | ug/L    | 27-DEC-19<br>27-DEC-19 | 0.5  |                  |        |
| Ethylbenzene                                                    |                |           |                  | ug/L    |                        | 2.4  |                  |        |
| n-Hexane                                                        | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 51   |                  |        |
| Methyl Leghyth Metans                                           | <20            |           | 20               | ug/L    | 27-DEC-19<br>27-DEC-19 | 1800 |                  |        |
| Methyl Isobutyl Ketone<br>MTBE                                  | <20<br><2.0    |           | 20<br>2.0        | ug/L    | 27-DEC-19<br>27-DEC-19 | 640  |                  |        |
|                                                                 | -              |           |                  | ug/L    | 27-DEC-19<br>27-DEC-19 | 15   |                  |        |
| Styrene                                                         | <0.50          |           | 0.50             | ug/L    |                        | 5.4  |                  |        |
| 1,1,1,2-Tetrachloroethane                                       | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 1.1  |                  |        |
| 1,1,2,2-Tetrachloroethane                                       | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 1    |                  |        |
| Tetrachloroethylene                                             | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 1.6  |                  |        |
| Toluene                                                         | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 24   |                  |        |
| 1,1,1-Trichloroethane                                           | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 200  |                  |        |
| 1,1,2-Trichloroethane                                           | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 4.7  |                  |        |
| Trichloroethylene                                               | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 1.6  |                  |        |
| Trichlorofluoromethane                                          | <5.0           |           | 5.0              | ug/L    | 27-DEC-19              | 150  |                  |        |
| Vinyl chloride                                                  | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 0.5  |                  |        |
| o-Xylene                                                        | <0.30          |           | 0.30             | ug/L    | 27-DEC-19              |      |                  |        |
| m+p-Xylenes                                                     | <0.40          |           | 0.40             | ug/L    | 27-DEC-19              | 000  |                  |        |
| Xylenes (Total)                                                 | <0.50          |           | 0.50             | ug/L    | 27-DEC-19              | 300  |                  |        |
| Surrogate: 4-Bromofluorobenzene                                 | 89.3           |           | 70-130           | %       | 27-DEC-19              |      |                  |        |
| Surrogate: 1,4-Difluorobenzene Hydrocarbons                     | 91.6           |           | 70-130           | %       | 27-DEC-19              |      |                  |        |
|                                                                 |                |           | 0.5              | ,,      | 07.050.40              |      |                  |        |
| F1 (C6-C10)                                                     | <25            |           | 25               | ug/L    | 27-DEC-19              | 750  |                  |        |
| F1-BTEX                                                         | <25            |           | 25               | ug/L    | 30-DEC-19              | 750  |                  |        |
| F2 (C10-C16)                                                    | <100           |           | 100              | ug/L    | 24-DEC-19              | 150  |                  |        |
| F2-Naphth                                                       | <100           |           | 100              | ug/L    | 30-DEC-19              |      |                  |        |
| F3 (C16-C34)                                                    | <250           |           | 250              | ug/L    | 24-DEC-19              | 500  |                  |        |
| F3-PAH                                                          | <250           |           | 250              | ug/L    | 30-DEC-19              | 500  |                  |        |
| F4 (C34-C50)                                                    | <250           |           | 250              | ug/L    | 24-DEC-19              | 500  |                  |        |
| Total Hydrocarbons (C6-C50)                                     | <370           |           | 370              | ug/L    | 30-DEC-19              |      |                  |        |
| Chrom. to baseline at nC50                                      | YES<br>97.8    |           | 60 140           | No Unit | 24-DEC-19<br>24-DEC-19 |      |                  |        |
| Surrogate: 2-Bromobenzotrifluoride                              | 77.8           |           | 60-140<br>60-140 | %<br>%  | 27-DEC-19              |      |                  |        |
| Surrogate: 3,4-Dichlorotoluene Polycyclic Aromatic Hydrocarbons | 11.0           |           | 00-140           | /0      | 21-050-19              |      |                  |        |
|                                                                 | <b>20.000</b>  |           | 0.020            | //      | 20 DEC 40              | 4.4  |                  |        |
| Acenaphthulana                                                  | <0.020         |           | 0.020            | ug/L    | 30-DEC-19              | 4.1  |                  |        |
| Acenaphthylene                                                  | <0.020         |           | 0.020            | ug/L    | 30-DEC-19              | 1    |                  |        |
| Anthracene                                                      | <0.020         |           | 0.020            | ug/L    | 30-DEC-19              | 2.4  |                  |        |
| Benzo(a)anthracene                                              | <0.020         |           | 0.020            | ug/L    | 30-DEC-19              | 1    |                  |        |
| Benzo(a)pyrene                                                  | <0.010         |           | 0.010            | ug/L    | 30-DEC-19              | 0.01 |                  |        |
| Benzo(b)fluoranthene                                            | <0.020         |           | 0.020            | ug/L    | 30-DEC-19              | 0.1  |                  |        |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



## **ANALYTICAL GUIDELINE REPORT**

L2399298 CONTD....

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| Sample Details                                       |              |              |             |              |                        |            | 20-JAN-20 (      | )8:56 (M I |
|------------------------------------------------------|--------------|--------------|-------------|--------------|------------------------|------------|------------------|------------|
| Grouping Analyte                                     | Result       | Qualifier    | D.L.        | Units        | Analyzed               |            | Guideline Limits |            |
| _2399298-1 MW100                                     |              |              |             |              |                        |            |                  |            |
| Sampled By: V.PETERS on 19-DEC-19 @ 14               | 4:2C         |              |             |              |                        |            |                  |            |
| Matrix: WATER                                        |              |              |             |              |                        | #1         |                  |            |
| Polycyclic Aromatic Hydrocarbons                     |              |              |             |              |                        |            |                  |            |
| Benzo(g,h,i)perylene                                 | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 0.2        |                  |            |
| Benzo(k)fluoranthene                                 | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 0.2        |                  |            |
| Chrysene                                             | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 0.1        |                  |            |
| Dibenzo(ah)anthracene                                | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 0.1        |                  |            |
| Fluoranthene                                         | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 0.41       |                  |            |
| Fluorene                                             | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 120        |                  |            |
| Indeno(1,2,3-cd)pyrene                               | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 0.2        |                  |            |
| 1+2-Methylnaphthalenes                               | <0.028       |              | 0.028       | ug/L         | 30-DEC-19              | 3.2        |                  |            |
| 1-Methylnaphthalene                                  | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 3.2        |                  |            |
| 2-Methylnaphthalene                                  | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 3.2        |                  |            |
| Naphthalene                                          | <0.050       |              | 0.050       | ug/L         | 30-DEC-19              | 11         |                  |            |
| Phenanthrene                                         | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 1          |                  |            |
| Pyrene                                               | <0.020       |              | 0.020       | ug/L         | 30-DEC-19              | 4.1        |                  |            |
| Surrogate: d10-Acenaphthene                          | 104.4        |              | 60-140      | %            | 30-DEC-19              |            |                  |            |
| Surrogate: d12-Chrysene                              | 112.9        |              | 60-140      | %            | 30-DEC-19              |            |                  |            |
| Surrogate: d8-Naphthalene                            | 94.6         |              | 60-140      | %            | 30-DEC-19              |            |                  |            |
| Surrogate: d10-Phenanthrene                          | 108.2        |              | 60-140      | %            | 30-DEC-19              |            |                  |            |
| Sampled By: V.PETERS on 20-DEC-19 @ 1  Matrix: WATER |              |              |             |              |                        | #1         |                  |            |
| Physical Tests                                       |              |              |             |              |                        |            |                  |            |
| Conductivity                                         | 1.76         |              | 0.0030      | mS/cm        | 21-DEC-19              |            |                  |            |
| pH<br>Anions and Nutrients                           | 7.76         |              | 0.10        | pH units     | 23-DEC-19              |            |                  |            |
|                                                      | 270          | DILIC        | 2.5         |              | 27 DEC 10              | 700        |                  |            |
| Chloride (CI)  Cyanides                              | 370          | DLHC         | 2.5         | mg/L         | 27-DEC-19              | 790        |                  |            |
| Cyanide, Weak Acid Diss                              | <2.0         |              | 2.0         | ug/L         | 20-DEC-19              | 66         |                  |            |
| Dissolved Metals                                     |              |              |             |              |                        |            |                  |            |
| Dissolved Mercury Filtration Location                | FIELD        |              |             | No Unit      | 23-DEC-19              |            |                  |            |
| Dissolved Metals Filtration Location                 | FIELD        | DI           | 4.0         | No Unit      | 20-DEC-19              | 4655       |                  |            |
| Barium (Ba)-Dissolved                                | 53.1         | DLHC         | 1.0         | ug/L         | 20-DEC-19              | 1000       |                  |            |
| Beryllium (Be)-Dissolved                             | <1.0         | DLHC         | 1.0         | ug/L         | 20-DEC-19              | 4          |                  |            |
| Boron (B)-Dissolved                                  | <100         | DLHC         | 100         | ug/L         | 20-DEC-19              | 5000       |                  |            |
| Cadmium (Cd)-Dissolved                               | <0.050       | DLHC         | 0.050       | ug/L         | 20-DEC-19              | 2.7        |                  |            |
| Chromium (Cr)-Dissolved                              | <5.0         | DLHC         | 5.0         | ug/L         | 20-DEC-19              | 50         |                  |            |
| Cobalt (Co)-Dissolved                                | <1.0         | DLHC         | 1.0         | ug/L         | 20-DEC-19              | 3.8        |                  |            |
| Copper (Cu)-Dissolved<br>Lead (Pb)-Dissolved         | 2.2<br><0.50 | DLHC<br>DLHC | 2.0<br>0.50 | ug/L         | 20-DEC-19<br>20-DEC-19 | 87<br>10   |                  |            |
| Mercury (Hg)-Dissolved                               | <0.0050      | DLITC        | 0.0050      | ug/L<br>ug/L | 20-DEC-19<br>23-DEC-19 | 10<br>0.29 |                  |            |
| Molybdenum (Mo)-Dissolved                            | 1.95         | DLHC         | 0.0050      | ug/L<br>ug/L | 20-DEC-19              | 0.29<br>70 |                  |            |
| Nickel (Ni)-Dissolved                                | <5.0         | DLHC         | 5.0         |              | 20-DEC-19<br>20-DEC-19 | 100        |                  |            |
| Silver (Ag)-Dissolved                                | <0.50        | DLHC         | 0.50        | ug/L<br>ug/L | 20-DEC-19<br>20-DEC-19 | 1.5        |                  |            |
| Thallium (TI)-Dissolved                              | <0.10        | DLHC         | 0.30        | ug/L<br>ug/L | 20-DEC-19<br>20-DEC-19 | 2          |                  |            |
| Uranium (U)-Dissolved                                | 0.76         | DLHC         | 0.10        | ug/L<br>ug/L | 20-DEC-19<br>20-DEC-19 | 20         |                  |            |
| Vanadium (V)-Dissolved                               | <5.0         | DLHC         | 5.0         | ug/L         | 20-DEC-19              | 20         |                  |            |

<sup>\*\*</sup> 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:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2399298-2 MW101 Sampled By: V.PETERS on 20-DEC-19 @ 11:45 #1 Matrix: WATER **Dissolved Metals** 6.2 Zinc (Zn)-Dissolved <10 **DLHC** 10 ug/L 20-DEC-19 1100 **Speciated Metals** 0.51 0.50 23-DEC-19 Chromium, Hexavalent ug/L 25 **Volatile Organic Compounds** Acetone <30 30 ug/L 27-DEC-19 2700 27-DEC-19 Benzene < 0.50 0.50 ug/L 5 Bromodichloromethane 6.6 2.0 ug/L 27-DEC-19 16 < 5.0 5.0 ug/L 27-DEC-19 Bromoform 25 Bromomethane < 0.50 0.50 27-DEC-19 ug/L 0.89 < 0.20 0.20 27-DEC-19 Carbon tetrachloride ug/L 0.79 Chlorobenzene < 0.50 0.50 ug/L 27-DEC-19 30 Dibromochloromethane 5.4 2.0 ug/L 27-DEC-19 25 Chloroform 8.5 1.0 ug/L 27-DEC-19 \*2.4 1,2-Dibromoethane < 0.20 0.20 ug/L 27-DEC-19 0.2 1,2-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 3 1,3-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 59 1,4-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 1 27-DEC-19 Dichlorodifluoromethane <2.0 2.0 ug/L 590 0.50 27-DEC-19 1,1-Dichloroethane < 0.50 ug/L 5 27-DEC-19 ug/L 1.2-Dichloroethane < 0.50 0.50 1.6 1,1-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 cis-1,2-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 16 trans-1,2-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 Methylene Chloride < 5.0 5.0 ug/L 27-DEC-19 50 < 0.50 0.50 ug/L 27-DEC-19 5 1,2-Dichloropropane cis-1,3-Dichloropropene < 0.30 0.30 ug/L 27-DEC-19 trans-1,3-Dichloropropene < 0.30 0.30 ug/L 27-DEC-19 1,3-Dichloropropene (cis & trans) < 0.50 0.50 27-DEC-19 0.5 ug/L Ethylbenzene < 0.50 0.50 ug/L 27-DEC-19 2.4 27-DEC-19 n-Hexane < 0.50 0.50 ug/L 51 Methyl Ethyl Ketone <20 20 27-DEC-19 1800 ug/L Methyl Isobutyl Ketone <20 20 ug/L 27-DEC-19 640 27-DEC-19 MTBE <2.0 2.0 ug/L 15 Styrene < 0.50 0.50 ug/L 27-DEC-19 5.4 1,1,1,2-Tetrachloroethane < 0.50 0.50 ug/L 27-DEC-19 1.1 1,1,2,2-Tetrachloroethane < 0.50 0.50 ug/L 27-DEC-19 1 Tetrachloroethylene 0.50 27-DEC-19 < 0.50 ug/L 1.6 Toluene ug/L < 0.50 0.50 27-DEC-19 24 1,1,1-Trichloroethane < 0.50 0.50 ug/L 27-DEC-19 200 1.1.2-Trichloroethane < 0.50 0.50 ug/L 27-DEC-19 4.7 Trichloroethylene 0.50 27-DEC-19 < 0.50 ug/L 1.6 Trichlorofluoromethane 27-DEC-19 < 5.0 5.0 ug/L 150 Vinyl chloride 27-DEC-19 < 0.50 0.50 ug/L 0.5 o-Xylene < 0.30 0.30 ug/L 27-DEC-19 m+p-Xylenes 0.40 ug/L 27-DEC-19

T2-Ground Water (Coarse Soil)-All Types of Property Use

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| E751900                             | ANALI  | IICAL     | GUID   | LLINE    | KLPOK     | <b>.</b> I | Page 6 of 3<br>20-JAN-20 08:56 (N |
|-------------------------------------|--------|-----------|--------|----------|-----------|------------|-----------------------------------|
| Sample Details Grouping Analyte     | Popult | Qualifier | D.L.   | Units    | Analyzad  |            |                                   |
| Grouping Analyte                    | Result | Qualifier |        | Units    | Analyzed  |            | Guideline Limits                  |
| _2399298-2 MW101                    |        |           |        |          |           |            |                                   |
| Sampled By: V.PETERS on 20-DEC-19 @ | 11:45  |           |        |          |           | #1         |                                   |
| Matrix: WATER                       |        |           |        |          |           |            |                                   |
| Volatile Organic Compounds          |        |           |        |          |           |            |                                   |
| Xylenes (Total)                     | <0.50  |           | 0.50   | ug/L     | 27-DEC-19 | 300        |                                   |
| Surrogate: 4-Bromofluorobenzene     | 90.5   |           | 70-130 | %        | 27-DEC-19 |            |                                   |
| Surrogate: 1,4-Difluorobenzene      | 92.5   |           | 70-130 | %        | 27-DEC-19 |            |                                   |
| Hydrocarbons                        |        |           |        |          |           |            |                                   |
| F1 (C6-C10)                         | <25    |           | 25     | ug/L     | 27-DEC-19 | 750        |                                   |
| F1-BTEX                             | <25    |           | 25     | ug/L     | 30-DEC-19 | 750        |                                   |
| F2 (C10-C16)                        | <100   |           | 100    | ug/L     | 24-DEC-19 | 150        |                                   |
| F2-Naphth                           | <100   |           | 100    | ug/L     | 30-DEC-19 |            |                                   |
| F3 (C16-C34)                        | <250   |           | 250    | ug/L     | 24-DEC-19 | 500        |                                   |
| F3-PAH                              | <250   |           | 250    | ug/L     | 30-DEC-19 |            |                                   |
| F4 (C34-C50)                        | <250   |           | 250    | ug/L     | 24-DEC-19 | 500        |                                   |
| Total Hydrocarbons (C6-C50)         | <370   |           | 370    | ug/L     | 30-DEC-19 |            |                                   |
| Chrom. to baseline at nC50          | YES    |           |        | No Unit  | 24-DEC-19 |            |                                   |
| Surrogate: 2-Bromobenzotrifluoride  | 93.9   |           | 60-140 | %        | 24-DEC-19 |            |                                   |
| Surrogate: 3,4-Dichlorotoluene      | 76.4   |           | 60-140 | %        | 27-DEC-19 |            |                                   |
| Polycyclic Aromatic Hydrocarbons    |        |           |        |          |           |            |                                   |
| Acenaphthene                        | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 4.1        |                                   |
| Acenaphthylene                      | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 1          |                                   |
| Anthracene                          | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 2.4        |                                   |
| Benzo(a)anthracene                  | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 1          |                                   |
| Benzo(a)pyrene                      | <0.010 |           | 0.010  | ug/L     | 30-DEC-19 | 0.01       |                                   |
| Benzo(b)fluoranthene                | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 0.1        |                                   |
| Benzo(g,h,i)perylene                | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 0.2        |                                   |
| Benzo(k)fluoranthene                | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 0.1        |                                   |
| Chrysene                            | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 0.1        |                                   |
| Dibenzo(ah)anthracene               | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 0.2        |                                   |
| Fluoranthene                        | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 0.41       |                                   |
| Fluorene                            | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 120        |                                   |
| Indeno(1,2,3-cd)pyrene              | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 0.2        |                                   |
| 1+2-Methylnaphthalenes              | <0.028 |           | 0.028  | ug/L     | 30-DEC-19 | 3.2        |                                   |
| 1-Methylnaphthalene                 | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 3.2        |                                   |
| 2-Methylnaphthalene                 | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 3.2        |                                   |
| Naphthalene                         | <0.050 |           | 0.050  | ug/L     | 30-DEC-19 | 11         |                                   |
| Phenanthrene                        | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 1          |                                   |
| Pyrene                              | <0.020 |           | 0.020  | ug/L     | 30-DEC-19 | 4.1        |                                   |
| Surrogate: d10-Acenaphthene         | 99.9   |           | 60-140 | %        | 30-DEC-19 |            |                                   |
| Surrogate: d12-Chrysene             | 105.5  |           | 60-140 | %        | 30-DEC-19 |            |                                   |
| Surrogate: d8-Naphthalene           | 90.0   |           | 60-140 | %        | 30-DEC-19 |            |                                   |
| Surrogate: d10-Phenanthrene         | 104.9  |           | 60-140 | %        | 30-DEC-19 |            |                                   |
| _2399298-3 MW102A                   |        |           |        |          |           |            |                                   |
| Sampled By: V.PETERS on 19-DEC-19 @ | 11:35  |           |        |          |           |            |                                   |
| Matrix: WATER                       |        |           |        |          |           | #1         |                                   |
|                                     |        |           |        |          |           |            |                                   |
| Physical Tests                      |        |           |        |          | 04.555    |            |                                   |
| Conductivity                        | 23.5   |           | 0.0030 | mS/cm    | 21-DEC-19 |            |                                   |
| рН                                  | 7.49   |           | 0.10   | pH units | 21-DEC-19 |            |                                   |

<sup>\*\*</sup> 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:



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CE751900 20-JAN-20 08:56 (MT) Sample Details D.L. Units Grouping Analyte Result Qualifier Analyzed **Guideline Limits** L2399298-3 MW102A Sampled By: V.PETERS on 19-DEC-19 @ 11:35 #1 Matrix: WATER **Anions and Nutrients** 8140 DLHC 27-DEC-19 \*790 Chloride (CI) 50 mg/L Cyanides Cyanide, Weak Acid Diss 8.4 2.0 ug/L 20-DEC-19 66 **Dissolved Metals** Dissolved Mercury Filtration Location **FIELD** No Unit 23-DEC-19 Dissolved Metals Filtration Location **FIELD** No Unit 20-DEC-19 526 DLHC 10 ug/L 20-DEC-19 1000 Barium (Ba)-Dissolved Beryllium (Be)-Dissolved <10 **DLHC** 10 ug/L 20-DEC-19 \*\*4 Boron (B)-Dissolved <1000 DLHC 1000 ug/L 20-DEC-19 5000 **DLHC** 0.50 Cadmium (Cd)-Dissolved < 0.50 ug/L 20-DEC-19 2.7 Chromium (Cr)-Dissolved <50 DLHC 20-DEC-19 50 50 ug/L DLHC 20-DEC-19 \*\*3.8 Cobalt (Co)-Dissolved <10 10 ug/L DLHC Copper (Cu)-Dissolved <20 20 ug/L 20-DEC-19 87 DLHC Lead (Pb)-Dissolved < 5.0 5.0 ug/L 20-DEC-19 10 Mercury (Hg)-Dissolved < 0.0050 0.0050 ug/L 23-DEC-19 0.29 Molybdenum (Mo)-Dissolved <5.0 DLHC 5.0 ug/L 20-DEC-19 70 DLHC 20-DEC-19 Nickel (Ni)-Dissolved <50 50 ug/L 100 \*\*1.5 Silver (Ag)-Dissolved <5.0 **DLHC** 5.0 ug/L 20-DEC-19 Thallium (TI)-Dissolved <1.0 DLHC 1.0 ug/L 20-DEC-19 2 **DLHC** 1.7 1.0 ug/L 20-DEC-19 Uranium (U)-Dissolved 20 <50 DLHC 50 20-DEC-19 \*\*6.2 Vanadium (V)-Dissolved ug/L <100 DLHC 100 20-DEC-19 Zinc (Zn)-Dissolved ug/L 1100 **Speciated Metals** Chromium, Hexavalent 0.51 0.50 ug/L 23-DEC-19 25 **Volatile Organic Compounds** Acetone 30 27-DEC-19 2700 <30 ug/L 27-DEC-19 0.50 Benzene < 0.50 ug/L 5 Bromodichloromethane <2.0 2.0 ug/L 27-DEC-19 16 Bromoform <5.0 5.0 ug/L 27-DEC-19 25 Bromomethane < 0.50 0.50 ug/L 27-DEC-19 0.89 Carbon tetrachloride < 0.20 0.20 ug/L 27-DEC-19 0.79 Chlorobenzene < 0.50 0.50 ug/L 27-DEC-19 30 Dibromochloromethane <2.0 2.0 ug/L 27-DEC-19 25 Chloroform <1.0 1.0 ug/L 27-DEC-19 2.4 0.20 ug/L 27-DEC-19 1,2-Dibromoethane < 0.20 0.2 27-DEC-19 1,2-Dichlorobenzene < 0.50 0.50 ug/L 3 1.3-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 59 1,4-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 1 Dichlorodifluoromethane <2.0 2.0 ug/L 27-DEC-19 590 1,1-Dichloroethane < 0.50 0.50 ug/L 27-DEC-19 5 1,2-Dichloroethane < 0.50 0.50 ug/L 27-DEC-19 1.6 0.50 27-DEC-19 1,1-Dichloroethylene < 0.50 ug/L 1.6 cis-1,2-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 trans-1,2-Dichloroethylene < 0.50 0.50 27-DEC-19 ug/L 1.6 Methylene Chloride < 5.0 5.0 ug/L 27-DEC-19 50

<sup>\*\*</sup> 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:



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| E751900                               | ANALI  | IICAL     | GUID   |         | KEPUN     | A I  | Page 8<br>20-JAN-20 ( | of 38<br>08:56 (MT |
|---------------------------------------|--------|-----------|--------|---------|-----------|------|-----------------------|--------------------|
| Sample Details                        | Daardi | Ouglitia  | D.1    | l leite | A ! !     |      |                       |                    |
| Grouping Analyte                      | Result | Qualifier | D.L.   | Units   | Analyzed  |      | Guideline Limits      |                    |
| L2399298-3 MW102A                     |        |           |        |         |           |      |                       |                    |
| Sampled By: V.PETERS on 19-DEC-19 @ 1 | 1:35   |           |        |         |           | #1   |                       |                    |
| Matrix: WATER                         |        |           |        |         |           | #1   |                       |                    |
| Volatile Organic Compounds            |        |           |        |         |           |      |                       |                    |
| 1,2-Dichloropropane                   | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 5    |                       |                    |
| cis-1,3-Dichloropropene               | <0.30  |           | 0.30   | ug/L    | 27-DEC-19 |      |                       |                    |
| trans-1,3-Dichloropropene             | <0.30  |           | 0.30   | ug/L    | 27-DEC-19 |      |                       |                    |
| 1,3-Dichloropropene (cis & trans)     | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 0.5  |                       |                    |
| Ethylbenzene                          | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 2.4  |                       |                    |
| n-Hexane                              | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 51   |                       |                    |
| Methyl Ethyl Ketone                   | <20    |           | 20     | ug/L    | 27-DEC-19 | 1800 |                       |                    |
| Methyl Isobutyl Ketone                | <20    |           | 20     | ug/L    | 27-DEC-19 | 640  |                       |                    |
| MTBE                                  | <2.0   |           | 2.0    | ug/L    | 27-DEC-19 | 15   |                       |                    |
| Styrene                               | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 5.4  |                       |                    |
| 1,1,1,2-Tetrachloroethane             | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 1.1  |                       |                    |
| 1,1,2,2-Tetrachloroethane             | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 1    |                       |                    |
| Tetrachloroethylene                   | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 1.6  |                       |                    |
| Toluene                               | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 24   |                       |                    |
| 1,1,1-Trichloroethane                 | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 200  |                       |                    |
| 1,1,2-Trichloroethane                 | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 4.7  |                       |                    |
| Trichloroethylene                     | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 1.6  |                       |                    |
| Trichlorofluoromethane                | <5.0   |           | 5.0    | ug/L    | 27-DEC-19 | 150  |                       |                    |
| Vinyl chloride                        | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 0.5  |                       |                    |
| o-Xylene                              | <0.30  |           | 0.30   | ug/L    | 27-DEC-19 |      |                       |                    |
| m+p-Xylenes                           | <0.40  |           | 0.40   | ug/L    | 27-DEC-19 |      |                       |                    |
| Xylenes (Total)                       | <0.50  |           | 0.50   | ug/L    | 27-DEC-19 | 300  |                       |                    |
| Surrogate: 4-Bromofluorobenzene       | 89.6   |           | 70-130 | %       | 27-DEC-19 |      |                       |                    |
| Surrogate: 1,4-Difluorobenzene        | 91.1   |           | 70-130 | %       | 27-DEC-19 |      |                       |                    |
| Hydrocarbons                          |        |           |        |         |           |      |                       |                    |
| F1 (C6-C10)                           | <25    |           | 25     | ug/L    | 27-DEC-19 | 750  |                       |                    |
| F1-BTEX                               | <25    |           | 25     | ug/L    | 30-DEC-19 | 750  |                       |                    |
| F2 (C10-C16)                          | <100   |           | 100    | ug/L    | 24-DEC-19 | 150  |                       |                    |
| F2-Naphth                             | <100   |           | 100    | ug/L    | 30-DEC-19 |      |                       |                    |
| F3 (C16-C34)                          | <250   |           | 250    | ug/L    | 24-DEC-19 | 500  |                       |                    |
| F3-PAH                                | <250   |           | 250    | ug/L    | 30-DEC-19 |      |                       |                    |
| F4 (C34-C50)                          | <250   |           | 250    | ug/L    | 24-DEC-19 | 500  |                       |                    |
| Total Hydrocarbons (C6-C50)           | <370   |           | 370    | ug/L    | 30-DEC-19 |      |                       |                    |
| Chrom. to baseline at nC50            | YES    |           |        | No Unit | 24-DEC-19 |      |                       |                    |
| Surrogate: 2-Bromobenzotrifluoride    | 100.1  |           | 60-140 | %       | 24-DEC-19 |      |                       |                    |
| Surrogate: 3,4-Dichlorotoluene        | 77.1   |           | 60-140 | %       | 27-DEC-19 |      |                       |                    |
| Polycyclic Aromatic Hydrocarbons      |        |           |        |         |           |      |                       |                    |
| Acenaphthene                          | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 4.1  |                       |                    |
| Acenaphthylene                        | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 1    |                       |                    |
| Anthracene                            | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 2.4  |                       |                    |
| Benzo(a)anthracene                    | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 1    |                       |                    |
| Benzo(a)pyrene                        | <0.010 |           | 0.010  | ug/L    | 30-DEC-19 | 0.01 |                       |                    |
| Benzo(b)fluoranthene                  | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.1  |                       |                    |
| Benzo(g,h,i)perylene                  | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.2  |                       |                    |
| Benzo(k)fluoranthene                  | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.1  |                       |                    |
| Chrysene                              | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.1  |                       |                    |

<sup>\*\*</sup> 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:



## **ANALYTICAL GUIDELINE REPORT**

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| Sample Details                        |         |           |        |          |           |           | 20-JAN-20        | JO:30 (IVI |
|---------------------------------------|---------|-----------|--------|----------|-----------|-----------|------------------|------------|
| Grouping Analyte                      | Result  | Qualifier | D.L.   | Units    | Analyzed  |           | Guideline Limits |            |
| _2399298-3 MW102A                     |         |           |        |          |           |           |                  |            |
| Sampled By: V.PETERS on 19-DEC-19 @ 1 | 1:35    |           |        |          |           |           |                  |            |
| Matrix: WATER                         |         |           |        |          |           | <u>#1</u> |                  |            |
| Polycyclic Aromatic Hydrocarbons      |         |           |        |          |           |           |                  |            |
| Dibenzo(ah)anthracene                 | <0.020  |           | 0.020  | ug/L     | 30-DEC-19 | 0.2       |                  |            |
| Fluoranthene                          | <0.020  |           | 0.020  | ug/L     | 30-DEC-19 | 0.41      |                  |            |
| Fluorene                              | <0.020  |           | 0.020  | ug/L     | 30-DEC-19 | 120       |                  |            |
| Indeno(1,2,3-cd)pyrene                | <0.020  |           | 0.020  | ug/L     | 30-DEC-19 | 0.2       |                  |            |
| 1+2-Methylnaphthalenes                | <0.028  |           | 0.028  | ug/L     | 30-DEC-19 | 3.2       |                  |            |
| 1-Methylnaphthalene                   | <0.020  |           | 0.020  | ug/L     | 30-DEC-19 | 3.2       |                  |            |
| 2-Methylnaphthalene                   | <0.020  |           | 0.020  | ug/L     | 30-DEC-19 | 3.2       |                  |            |
| Naphthalene                           | <0.050  |           | 0.050  | ug/L     | 30-DEC-19 | 11        |                  |            |
| Phenanthrene                          | <0.020  |           | 0.020  | ug/L     | 30-DEC-19 | 1         |                  |            |
| Pyrene                                | <0.020  |           | 0.020  | ug/L     | 30-DEC-19 | 4.1       |                  |            |
| Surrogate: d10-Acenaphthene           | 108.1   |           | 60-140 | %        | 30-DEC-19 |           |                  |            |
| Surrogate: d12-Chrysene               | 115.5   |           | 60-140 | %        | 30-DEC-19 |           |                  |            |
| Surrogate: d8-Naphthalene             | 98.0    |           | 60-140 | %        | 30-DEC-19 |           |                  |            |
| Surrogate: d10-Phenanthrene           | 108.5   |           | 60-140 | %        | 30-DEC-19 |           |                  |            |
| _2399298-4 MW102B                     |         |           |        |          |           |           |                  |            |
| Sampled By: V.PETERS on 19-DEC-19 @ 1 | 10-10   |           |        |          |           |           |                  |            |
| Matrix: WATER                         |         |           |        |          |           | #1        |                  |            |
| Wilder D.                             |         |           |        |          |           |           |                  |            |
| Physical Tests                        |         |           |        |          |           |           |                  |            |
| Conductivity                          | 24.3    |           | 0.0030 | mS/cm    | 21-DEC-19 |           |                  |            |
| pH                                    | 7.34    |           | 0.10   | pH units | 21-DEC-19 |           |                  |            |
| Anions and Nutrients                  |         |           |        |          |           |           |                  |            |
| Chloride (CI)                         | 8500    | DLHC      | 50     | mg/L     | 27-DEC-19 | *790      |                  |            |
| Cyanides                              |         |           |        |          |           |           |                  |            |
| Cyanide, Weak Acid Diss               | <2.0    |           | 2.0    | ug/L     | 20-DEC-19 | 66        |                  |            |
| Dissolved Metals                      |         |           |        |          |           |           |                  |            |
| Dissolved Mercury Filtration Location | FIELD   |           |        | No Unit  | 23-DEC-19 |           |                  |            |
| Dissolved Metals Filtration Location  | FIELD   |           |        | No Unit  | 20-DEC-19 |           |                  |            |
| Barium (Ba)-Dissolved                 | 556     | DLHC      | 10     | ug/L     | 20-DEC-19 | 1000      |                  |            |
| Beryllium (Be)-Dissolved              | <10     | DLHC      | 10     | ug/L     | 20-DEC-19 | **4       |                  |            |
| Boron (B)-Dissolved                   | <1000   | DLHC      | 1000   | ug/L     | 20-DEC-19 | 5000      |                  |            |
| Cadmium (Cd)-Dissolved                | 0.78    | DLHC      | 0.50   | ug/L     | 20-DEC-19 | 2.7       |                  |            |
| Chromium (Cr)-Dissolved               | <50     | DLHC      | 50     | ug/L     | 20-DEC-19 | 50        |                  |            |
| Cobalt (Co)-Dissolved                 | <10     | DLHC      | 10     | ug/L     | 20-DEC-19 | **3.8     |                  |            |
| Copper (Cu)-Dissolved                 | <20     | DLHC      | 20     | ug/L     | 20-DEC-19 | 87        |                  |            |
| Lead (Pb)-Dissolved                   | <5.0    | DLHC      | 5.0    | ug/L     | 20-DEC-19 | 10        |                  |            |
| Mercury (Hg)-Dissolved                | <0.0050 |           | 0.0050 | ug/L     | 23-DEC-19 | 0.29      |                  |            |
| Molybdenum (Mo)-Dissolved             | <5.0    | DLHC      | 5.0    | ug/L     | 20-DEC-19 | 70        |                  |            |
| Nickel (Ni)-Dissolved                 | <50     | DLHC      | 50     | ug/L     | 20-DEC-19 | 100       |                  |            |
| Silver (Ag)-Dissolved                 | <5.0    | DLHC      | 5.0    | ug/L     | 20-DEC-19 | **1.5     |                  |            |
| Thallium (TI)-Dissolved               | <1.0    | DLHC      | 1.0    | ug/L     | 20-DEC-19 | 2         |                  |            |
| Uranium (U)-Dissolved                 | 1.6     | DLHC      | 1.0    | ug/L     | 20-DEC-19 | 20        |                  |            |
| Vanadium (V)-Dissolved                | <50     | DLHC      | 50     | ug/L     | 20-DEC-19 | **6.2     |                  |            |
| Zinc (Zn)-Dissolved                   | <100    | DLHC      | 100    | ug/L     | 20-DEC-19 | 1100      |                  |            |
| Speciated Metals                      | 1.00    |           | '''    | 9-       |           |           |                  |            |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Analyte Grouping Result Qualifier D.L. Units Analyzed **Guideline Limits** L2399298-4 MW102B Sampled By: V.PETERS on 19-DEC-19 @ 10:10 #1 Matrix: WATER **Speciated Metals** 0.51 23-DEC-19 Chromium, Hexavalent 0.50 ug/L 25 **Volatile Organic Compounds** 27-DEC-19 Acetone <30 30 ug/L 2700 Benzene 0.50 27-DEC-19 < 0.50 ug/L 5 27-DFC-19 Bromodichloromethane < 2.0 2.0 ug/L 16 **Bromoform** < 5.0 5.0 ug/L 27-DEC-19 25 Bromomethane < 0.50 0.50 ug/L 27-DEC-19 0.89 Carbon tetrachloride < 0.20 0.20 ug/L 27-DEC-19 0.79 Chlorobenzene < 0.50 0.50 ug/L 27-DEC-19 30 Dibromochloromethane <2.0 2.0 ug/L 27-DEC-19 25 Chloroform <1.0 27-DEC-19 1.0 ug/L 2.4 0.20 27-DEC-19 0.2 1.2-Dibromoethane < 0.20 ug/L 1,2-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 3 1.3-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 59 0.50 27-DEC-19 1.4-Dichlorobenzene < 0.50 ug/L 1 Dichlorodifluoromethane 2.0 ug/L 27-DEC-19 590 <2.0 0.50 27-DEC-19 1,1-Dichloroethane < 0.50 ug/L 5 1,2-Dichloroethane < 0.50 0.50 ug/L 27-DEC-19 1.6 1,1-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 0.50 27-DEC-19 cis-1,2-Dichloroethylene < 0.50 ug/L 1.6 0.50 27-DEC-19 trans-1,2-Dichloroethylene < 0.50 ug/L 1.6 ug/L 27-DFC-19 < 5.0 5.0 Methylene Chloride 50 1,2-Dichloropropane < 0.50 0.50 ug/L 27-DEC-19 5 cis-1,3-Dichloropropene < 0.30 0.30 ug/L 27-DEC-19 trans-1,3-Dichloropropene < 0.30 0.30 27-DEC-19 ug/L 27-DEC-19 1,3-Dichloropropene (cis & trans) < 0.50 0.50 ug/L 0.5 0.50 ug/L 27-DEC-19 Ethylbenzene < 0.50 2.4 0.50 27-DEC-19 n-Hexane < 0.50 ug/L 51 Methyl Ethyl Ketone <20 20 ug/L 27-DEC-19 1800 Methyl Isobutyl Ketone <20 20 ug/L 27-DEC-19 640 MTBE <2.0 27-DEC-19 2.0 ug/L 15 0.50 27-DEC-19 Styrene < 0.50 ug/L 5.4 ug/L 27-DEC-19 < 0.50 0.50 1,1,1,2-Tetrachloroethane 1.1 1,1,2,2-Tetrachloroethane < 0.50 0.50 ug/L 27-DEC-19 Tetrachloroethylene < 0.50 0.50 ug/L 27-DEC-19 16 0.50 27-DEC-19 Toluene < 0.50 ug/L 24 1,1,1-Trichloroethane 0.50 27-DEC-19 < 0.50 ug/L 200 1,1,2-Trichloroethane < 0.50 0.50 27-DEC-19 ug/L 4.7 Trichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 Trichlorofluoromethane <5.0 5.0 ug/L 27-DFC-19 150 Vinyl chloride < 0.50 0.50 ug/L 27-DEC-19 0.5 o-Xvlene < 0.30 0.30 ug/L 27-DEC-19 27-DEC-19 m+p-Xylenes < 0.40 0.40ug/L ug/L 27-DEC-19 300 Xylenes (Total) < 0.50 0.50 Surrogate: 4-Bromofluorobenzene 90.2 70-130 % 27-DEC-19

70-130

27-DEC-19

Surrogate: 1,4-Difluorobenzene

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



## **ANALYTICAL GUIDELINE REPORT**

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| CE751900                              |        |           |        |              |           |            | 2        | 20-JAN-20 0 | 8:56 (MT) |
|---------------------------------------|--------|-----------|--------|--------------|-----------|------------|----------|-------------|-----------|
| Sample Details<br>Grouping Analyte    | Result | Qualifier | D.L.   | Units        | Analyzed  |            | Guidelin | e Limits    |           |
| L2399298-4 MW102B                     |        |           |        |              |           |            |          |             |           |
| Sampled By: V.PETERS on 19-DEC-19 @ 1 | O:1C   |           |        |              |           |            |          |             |           |
| Matrix: WATER                         |        |           |        |              |           | #1         |          |             |           |
| Hydrocarbons                          |        |           |        |              |           |            |          |             |           |
| F1 (C6-C10)                           | <25    |           | 25     | ua/l         | 27-DEC-19 | 750        |          |             |           |
| F1-BTEX                               | <25    |           | 25     | ug/L         | 30-DEC-19 | 750<br>750 |          |             |           |
| F2 (C10-C16)                          | <100   |           | 100    | ug/L         | 24-DEC-19 | 150        |          |             |           |
| F2-Naphth                             | <100   |           | 100    | ug/L<br>ug/L | 30-DEC-19 | 150        |          |             |           |
| F3 (C16-C34)                          | <250   |           | 250    | ug/L<br>ug/L | 24-DEC-19 | 500        |          |             |           |
| F3-PAH                                | <250   |           | 250    | ug/L         | 30-DEC-19 | 300        |          |             |           |
| F4 (C34-C50)                          | <250   |           | 250    | ug/L         | 24-DEC-19 | 500        |          |             |           |
| Total Hydrocarbons (C6-C50)           | <370   |           | 370    | ug/L         | 30-DEC-19 | 300        |          |             |           |
| Chrom. to baseline at nC50            | YES    |           | 010    | No Unit      | 24-DEC-19 |            |          |             |           |
| Surrogate: 2-Bromobenzotrifluoride    | 95.1   |           | 60-140 | %            | 24-DEC-19 |            |          |             |           |
| Surrogate: 3,4-Dichlorotoluene        | 70.5   |           | 60-140 | %            | 27-DEC-19 |            |          |             |           |
| Polycyclic Aromatic Hydrocarbons      |        |           |        |              |           |            |          |             |           |
| Acenaphthene                          | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 4.1        |          |             |           |
| Acenaphthylene                        | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 1          |          |             |           |
| Anthracene                            | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 2.4        |          |             |           |
| Benzo(a)anthracene                    | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 1          |          |             |           |
| Benzo(a)pyrene                        | <0.010 |           | 0.010  | ug/L         | 30-DEC-19 | 0.01       |          |             |           |
| Benzo(b)fluoranthene                  | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 0.1        |          |             |           |
| Benzo(g,h,i)perylene                  | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 0.2        |          |             |           |
| Benzo(k)fluoranthene                  | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 0.1        |          |             |           |
| Chrysene                              | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 0.1        |          |             |           |
| Dibenzo(ah)anthracene                 | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 0.2        |          |             |           |
| Fluoranthene                          | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 0.41       |          |             |           |
| Fluorene                              | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 120        |          |             |           |
| Indeno(1,2,3-cd)pyrene                | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 0.2        |          |             |           |
| 1+2-Methylnaphthalenes                | <0.028 |           | 0.028  | ug/L         | 30-DEC-19 | 3.2        |          |             |           |
| 1-Methylnaphthalene                   | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 3.2        |          |             |           |
| 2-Methylnaphthalene                   | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 3.2        |          |             |           |
| Naphthalene                           | <0.050 |           | 0.050  | ug/L         | 30-DEC-19 | 11         |          |             |           |
| Phenanthrene                          | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 1          |          |             |           |
| Pyrene                                | <0.020 |           | 0.020  | ug/L         | 30-DEC-19 | 4.1        |          |             |           |
| Surrogate: d10-Acenaphthene           | 102.9  |           | 60-140 | %            | 30-DEC-19 |            |          |             |           |
| Surrogate: d12-Chrysene               | 108.4  |           | 60-140 | %            | 30-DEC-19 |            |          |             |           |
| Surrogate: d8-Naphthalene             | 97.7   |           | 60-140 | %            | 30-DEC-19 |            |          |             |           |
| Surrogate: d10-Phenanthrene           | 103.8  |           | 60-140 | %            | 30-DEC-19 |            |          |             |           |
| L2399298-5 MW103                      |        |           |        |              |           |            |          |             |           |
| Sampled By: V.PETERS on 18-DEC-19 @ 1 | 6:45   |           |        |              |           |            |          |             |           |
| Matrix: WATER                         |        |           |        |              |           | #1         |          |             |           |
|                                       |        |           |        |              |           |            |          |             |           |
| Physical Tests                        |        |           |        |              |           |            |          |             |           |
| Conductivity                          | 15.4   |           | 0.0030 | mS/cm        | 21-DEC-19 |            |          |             |           |
| pH                                    | 7.53   |           | 0.10   | pH units     | 21-DEC-19 |            |          |             |           |
| Anions and Nutrients                  |        |           |        |              |           |            |          |             |           |
| Chloride (CI)                         | 5890   | DLHC      | 10     | mg/L         | 27-DEC-19 | *790       |          |             |           |
| Cyanides                              |        |           |        |              |           |            |          |             |           |
| Cyanide, Weak Acid Diss               | <2.0   |           | 2.0    | ug/L         | 20-DEC-19 | 66         |          |             |           |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



#### ANALYTICAL GUIDELINE REPORT

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20-JAN-20 08:56 (MT) Sample Details D.L. Units Grouping Analyte Result Qualifier Analyzed **Guideline Limits** L2399298-5 MW103 Sampled By: V.PETERS on 18-DEC-19 @ 16:45 #1 Matrix: WATER **Dissolved Metals FIELD** No Unit 23-DEC-19 Dissolved Mercury Filtration Location **FIELD** Dissolved Metals Filtration Location No Unit 20-DEC-19 **DLHC** Barium (Ba)-Dissolved 378 1.0 ug/L 20-DEC-19 1000 DLHC Beryllium (Be)-Dissolved <1.0 1.0 ug/L 20-DEC-19 4 DLHC Boron (B)-Dissolved <100 100 ug/L 20-DEC-19 5000 Cadmium (Cd)-Dissolved 0.128 DLHC 0.050 20-DEC-19 ug/L 2.7 Chromium (Cr)-Dissolved DLHC 5.0 20-DEC-19 < 5.0 ug/L 50 Cobalt (Co)-Dissolved 1.4 DLHC 1.0 ug/L 20-DEC-19 3.8 DLHC Copper (Cu)-Dissolved 3.0 2.0 ug/L 20-DEC-19 87 Lead (Pb)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 10 < 0.0050 0.0050 ug/L 23-DEC-19 Mercury (Hg)-Dissolved 0.29 DLHC 0.50 3.13 20-DEC-19 70 Molybdenum (Mo)-Dissolved ug/L **DLHC** Nickel (Ni)-Dissolved < 5.0 5.0 ug/L 20-DEC-19 100 Silver (Ag)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 1.5 Thallium (TI)-Dissolved < 0.10 **DLHC** 0.10 ug/L 20-DEC-19 2 Uranium (U)-Dissolved 5.79 DLHC 0.10 20-DEC-19 20 ug/L Vanadium (V)-Dissolved < 5.0 DLHC 20-DEC-19 5.0 ug/L 6.2 Zinc (Zn)-Dissolved <10 DLHC 10 ug/L 20-DEC-19 1100 **Speciated Metals** Chromium, Hexavalent < 0.50 0.50 ug/L 23-DEC-19 25 **Volatile Organic Compounds** 30 27-DFC-19 Acetone <30 ug/L 2700 Benzene < 0.50 0.50 ug/L 27-DEC-19 5 Bromodichloromethane <2.0 2.0 ug/L 27-DEC-19 16 27-DEC-19 Bromoform < 5.0 5.0 ug/L 25 0.50 ug/L 27-DEC-19 Bromomethane < 0.50 0.89 Carbon tetrachloride < 0.20 0.20 ug/L 27-DEC-19 0.79 Chlorobenzene < 0.50 0.50 ug/L 27-DEC-19 30 Dibromochloromethane <2.0 2.0 ug/L 27-DEC-19 25 27-DEC-19 Chloroform <1.0 1.0 ug/L 2.4 27-DEC-19 1,2-Dibromoethane < 0.20 0.20 ug/L 0.2 27-DEC-19 0.50 3 1,2-Dichlorobenzene < 0.50 ug/L 0.50 27-DEC-19 59 1,3-Dichlorobenzene < 0.50 ug/L 0.50 27-DEC-19 1,4-Dichlorobenzene < 0.50 ug/L 1 Dichlorodifluoromethane <2.0 2.0 ug/L 27-DEC-19 590 1,1-Dichloroethane < 0.50 0.50 ug/L 27-DEC-19 5 0.50 ug/L 27-DEC-19 1,2-Dichloroethane < 0.50 1.6 27-DEC-19 1,1-Dichloroethylene < 0.50 0.50 ug/L 1.6 ug/L < 0.50 0.50 27-DEC-19 cis-1,2-Dichloroethylene 1.6 trans-1,2-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 Methylene Chloride <5.0 5.0 ug/L 27-DEC-19 50 0.50 27-DEC-19 1,2-Dichloropropane < 0.50 ug/L 5 0.30 27-DEC-19 cis-1,3-Dichloropropene < 0.30 ug/L trans-1,3-Dichloropropene < 0.30 0.30 ug/L 27-DEC-19 1,3-Dichloropropene (cis & trans) < 0.50 0.50 ug/L 27-DEC-19 0.5 27-DEC-19 Ethylbenzene < 0.50 0.50 ug/L 2.4

T2-Ground Water (Coarse Soil)-All Types of Property Use

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2399298-5 MW103 Sampled By: V.PETERS on 18-DEC-19 @ 16:45 #1 Matrix: WATER **Volatile Organic Compounds** < 0.50 0.50 ug/L 27-DEC-19 n-Hexane 51 Methyl Ethyl Ketone <20 20 ug/L 27-DEC-19 1800 Methyl Isobutyl Ketone <20 20 ug/L 27-DEC-19 640 MTBE 2.0 27-DEC-19 <2.0 ug/L 15 Styrene < 0.50 0.50 27-DEC-19 ug/L 5.4 0.50 27-DEC-19 1.1.1.2-Tetrachloroethane < 0.50 ug/L 1.1 27-DEC-19 1,1,2,2-Tetrachloroethane < 0.50 0.50 ug/L 1 Tetrachloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 < 0.50 0.50 ug/L 27-DEC-19 Toluene 24 0.50 ug/L 27-DEC-19 200 1,1,1-Trichloroethane < 0.50 1,1,2-Trichloroethane < 0.50 0.50 ug/L 27-DEC-19 4.7 Trichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 Trichlorofluoromethane <5.0 5.0 ug/L 27-DEC-19 150 27-DEC-19 Vinyl chloride < 0.50 0.50 ug/L 0.5 o-Xylene 0.30 27-DEC-19 < 0.30 ug/L m+p-Xylenes < 0.40 0.40 ug/L 27-DEC-19 < 0.50 ug/L 27-DEC-19 300 Xylenes (Total) 0.50 Surrogate: 4-Bromofluorobenzene 89.5 70-130 % 27-DEC-19 Surrogate: 1,4-Difluorobenzene 70-130 27-DEC-19 91.5 % **Hydrocarbons** 27-DEC-19 F1 (C6-C10) <25 25 ug/L 750 F1-BTEX <25 25 30-DEC-19 ug/L 750 F2 (C10-C16) <100 100 ug/L 24-DEC-19 150 ug/L F2-Naphth <100 100 30-DEC-19 <250 250 ug/L 24-DEC-19 500 F3 (C16-C34) 250 ug/L 30-DEC-19 F3-PAH <250 F4 (C34-C50) <250 250 ug/L 24-DEC-19 500 <370 370 30-DEC-19 Total Hydrocarbons (C6-C50) ug/L 24-DEC-19 Chrom. to baseline at nC50 YES No Unit Surrogate: 2-Bromobenzotrifluoride 97.4 60-140 % 24-DEC-19 Surrogate: 3,4-Dichlorotoluene 74.5 60-140 % 27-DEC-19 **Polycyclic Aromatic Hydrocarbons** Acenaphthene < 0.020 0.020 ug/L 30-DEC-19 4.1 < 0.020 0.020 30-DEC-19 Acenaphthylene ug/L 1 < 0.020 0.020 30-DEC-19 Anthracene ug/L 2.4 < 0.020 0.020 30-DEC-19 Benzo(a)anthracene ug/L Benzo(a)pyrene < 0.010 0.010 ug/L 30-DEC-19 0.01 Benzo(b)fluoranthene < 0.020 0.020 ug/L 30-DEC-19 0.1 Benzo(g,h,i)perylene < 0.020 0.020 ug/L 30-DEC-19 0.2 Benzo(k)fluoranthene < 0.020 0.020 ug/L 30-DEC-19 0.1

< 0.020

< 0.020

< 0.020

< 0.020

< 0.020

< 0.028

0.020

0.020

0.020

0.020

0.020

0.028

ug/L

ug/L

ug/L

ug/L

ug/L

ug/L

30-DEC-19

30-DEC-19

30-DEC-19

30-DEC-19

30-DEC-19

30-DEC-19

0.1

0.2

0.41

120

0.2

3.2

Chrysene

Fluorene

Fluoranthene

Dibenzo(ah)anthracene

Indeno(1,2,3-cd)pyrene

1+2-Methylnaphthalenes

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Result Qualifier D.L. Units Grouping Analyte Analyzed **Guideline Limits** L2399298-5 MW103 Sampled By: V.PETERS on 18-DEC-19 @ 16:45 #1 Matrix: WATER **Polycyclic Aromatic Hydrocarbons** 1-Methylnaphthalene < 0.020 0.020 ug/L 30-DEC-19 3.2 2-Methylnaphthalene <0.020 0.020 ug/L 30-DEC-19 3.2 Naphthalene < 0.050 0.050 ug/L 30-DEC-19 11 Phenanthrene < 0.020 0.020 30-DEC-19 ug/L Pyrene < 0.020 0.020 ug/L 30-DEC-19 4.1 Surrogate: d10-Acenaphthene 102.5 60-140 30-DEC-19 % 60-140 30-DEC-19 Surrogate: d12-Chrysene 113.6 % 30-DEC-19 Surrogate: d8-Naphthalene 97.4 60-140 % Surrogate: d10-Phenanthrene 60-140 % 30-DEC-19 103.7 L2399298-6 MW104 Sampled By: V.PETERS on 20-DEC-19 @ 10:40 #1 WATER Matrix: **Physical Tests** 0.0030 mS/cm 21-DEC-19 Conductivity 11.0 7.47 0.10 pH units 23-DEC-19 **Anions and Nutrients** Chloride (CI) 4170 DLHC 10 mg/L 27-DEC-19 \*790 Cyanides Cyanide, Weak Acid Diss <2.0 2.0 ug/L 20-DEC-19 66 **Dissolved Metals** 23-DEC-19 Dissolved Mercury Filtration Location **FIELD** No Unit Dissolved Metals Filtration Location 20-DEC-19 **FIELD** No Unit Barium (Ba)-Dissolved 225 DLHC 1.0 ug/L 20-DEC-19 1000 Beryllium (Be)-Dissolved <1.0 DLHC 1.0 ug/L 20-DEC-19 4 Boron (B)-Dissolved <100 DLHC 100 ug/L 20-DEC-19 5000 Cadmium (Cd)-Dissolved < 0.050 DLHC 0.050 ug/L 20-DEC-19 2.7 DLHC Chromium (Cr)-Dissolved <5.0 5.0 ug/L 20-DEC-19 50 Cobalt (Co)-Dissolved <1.0 DLHC 1.0 ug/L 20-DEC-19 3.8 2.5 DLHC 2.0 ug/L 20-DEC-19 87 Copper (Cu)-Dissolved Lead (Pb)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 10 < 0.0050 0.0050 ug/L 23-DEC-19 0.29 Mercury (Hg)-Dissolved Molybdenum (Mo)-Dissolved 3.97 DLHC 0.50 ug/L 20-DEC-19 70 DLHC 20-DEC-19 Nickel (Ni)-Dissolved <5.0 5.0 ug/L 100 DLHC 0.50 20-DEC-19 Silver (Ag)-Dissolved < 0.50 ug/L 1.5 Thallium (TI)-Dissolved <0.10 DLHC 0.10 ug/L 20-DEC-19 2 Uranium (U)-Dissolved 1.53 DLHC 0.10 ug/L 20-DEC-19 20 DLHC Vanadium (V)-Dissolved <5.0 5.0 ug/L 20-DEC-19 6.2 Zinc (Zn)-Dissolved <10 DLHC ug/L 20-DEC-19 1100 **Speciated Metals** < 0.50 0.50 Chromium, Hexavalent ug/L 23-DEC-19 25 **Volatile Organic Compounds** 27-DEC-19 2700 Acetone <30 30 ug/L 0.50 27-DEC-19 Benzene < 0.50 ug/L 5

<2.0

2.0

ug/L

27-DEC-19

16

Bromodichloromethane

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900                                | ANALT          | ICAL      | GUID         | ELINE        | REPUR                  |            | Page 15<br>20-JAN-20 08: |       |
|-----------------------------------------|----------------|-----------|--------------|--------------|------------------------|------------|--------------------------|-------|
| Sample Details                          |                |           |              |              |                        |            |                          | oo (, |
| Grouping Analyte                        | Result         | Qualifier | D.L.         | Units        | Analyzed               |            | Guideline Limits         |       |
| L2399298-6 MW104                        |                |           |              |              |                        |            |                          |       |
| Sampled By: V.PETERS on 20-DEC-19 @ 10: | 4C             |           |              |              |                        |            |                          |       |
| Matrix: WATER                           |                |           |              |              |                        | #1         |                          |       |
| Volatile Organic Compounds              |                |           |              |              |                        |            |                          |       |
|                                         |                |           | F 0          | /1           | 07 DEC 40              | 05         |                          |       |
| Bromoform                               | <5.0           |           | 5.0          | ug/L         | 27-DEC-19              | 25         |                          |       |
| Bromomethane Carbon tetrachloride       | <0.50<br><0.20 |           | 0.50         | ug/L         | 27-DEC-19              | 0.89       |                          |       |
| Carbon tetrachionde Chlorobenzene       | <0.20          |           | 0.20<br>0.50 | ug/L         | 27-DEC-19<br>27-DEC-19 | 0.79<br>30 |                          |       |
| Dibromochloromethane                    | <2.0           |           | 2.0          | ug/L         | 27-DEC-19<br>27-DEC-19 | 30<br>25   |                          |       |
| Chloroform                              | <1.0           |           | 1.0          | ug/L         | 27-DEC-19<br>27-DEC-19 | 25<br>2.4  |                          |       |
| 1,2-Dibromoethane                       | <0.20          |           | 0.20         | ug/L<br>ug/L | 27-DEC-19<br>27-DEC-19 | 0.2        |                          |       |
| 1,2-Dichlorobenzene                     | <0.50          |           | 0.50         | ug/L<br>ug/L | 27-DEC-19<br>27-DEC-19 | 3          |                          |       |
| 1.3-Dichlorobenzene                     | <0.50          |           | 0.50         | ug/L<br>ug/L | 27-DEC-19<br>27-DEC-19 | 59         |                          |       |
| 1,4-Dichlorobenzene                     | <0.50          |           | 0.50         | ug/L<br>ug/L | 27-DEC-19<br>27-DEC-19 | 59<br>1    |                          |       |
| Dichlorodifluoromethane                 | <2.0           |           | 2.0          | ug/L<br>ug/L | 27-DEC-19<br>27-DEC-19 | 590        |                          |       |
| 1,1-Dichloroethane                      | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 5          |                          |       |
| 1.2-Dichloroethane                      | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 1.6        |                          |       |
| 1,1-Dichloroethylene                    | <0.50          |           | 0.50         | ug/L<br>ug/L | 27-DEC-19              | 1.6        |                          |       |
| cis-1,2-Dichloroethylene                | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 1.6        |                          |       |
| trans-1,2-Dichloroethylene              | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 1.6        |                          |       |
| Methylene Chloride                      | <5.0           |           | 5.0          | ug/L         | 27-DEC-19              | 50         |                          |       |
| 1,2-Dichloropropane                     | <0.50          |           | 0.50         | ug/L<br>ug/L | 27-DEC-19              | 5          |                          |       |
| cis-1,3-Dichloropropene                 | <0.30          |           | 0.30         | ug/L         | 27-DEC-19              | 3          |                          |       |
| trans-1,3-Dichloropropene               | <0.30          |           | 0.30         | ug/L         | 27-DEC-19              |            |                          |       |
| 1,3-Dichloropropene (cis & trans)       | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 0.5        |                          |       |
| Ethylbenzene                            | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 2.4        |                          |       |
| n-Hexane                                | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 51         |                          |       |
| Methyl Ethyl Ketone                     | <20            |           | 20           | ug/L         | 27-DEC-19              | 1800       |                          |       |
| Methyl Isobutyl Ketone                  | <20            |           | 20           | ug/L         | 27-DEC-19              | 640        |                          |       |
| MTBE                                    | <2.0           |           | 2.0          | ug/L         | 27-DEC-19              | 15         |                          |       |
| Styrene                                 | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 5.4        |                          |       |
| 1,1,2-Tetrachloroethane                 | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 1.1        |                          |       |
| 1,1,2,2-Tetrachloroethane               | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 1          |                          |       |
| Tetrachloroethylene                     | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 1.6        |                          |       |
| Toluene                                 | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 24         |                          |       |
| 1,1,1-Trichloroethane                   | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 200        |                          |       |
| 1,1,2-Trichloroethane                   | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 4.7        |                          |       |
| Trichloroethylene                       | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 1.6        |                          |       |
| Trichlorofluoromethane                  | <5.0           |           | 5.0          | ug/L         | 27-DEC-19              | 150        |                          |       |
| Vinyl chloride                          | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 0.5        |                          |       |
| o-Xylene                                | < 0.30         |           | 0.30         | ug/L         | 27-DEC-19              |            |                          |       |
| m+p-Xylenes                             | <0.40          |           | 0.40         | ug/L         | 27-DEC-19              |            |                          |       |
| Xylenes (Total)                         | <0.50          |           | 0.50         | ug/L         | 27-DEC-19              | 300        |                          |       |
| Surrogate: 4-Bromofluorobenzene         | 90.7           |           | 70-130       | %            | 27-DEC-19              |            |                          |       |
| Surrogate: 1,4-Difluorobenzene          | 91.8           |           | 70-130       | %            | 27-DEC-19              |            |                          |       |
| Hydrocarbons                            |                |           |              |              |                        |            |                          |       |
| F1 (C6-C10)                             | <25            |           | 25           | ug/L         | 27-DEC-19              | 750        |                          |       |
| F1-BTEX                                 | <25            |           | 25           | ug/L         | 30-DEC-19              | 750        |                          |       |
| F2 (C10-C16)                            | <100           |           | 100          | ug/L         | 24-DEC-19              | 150        |                          |       |
| F2-Naphth                               | <100           |           | 100          | ug/L         | 30-DEC-19              |            |                          |       |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2399298-6 MW104 Sampled By: V.PETERS on 20-DEC-19 @ 10:40 #1 Matrix: WATER **Hvdrocarbons** <250 250 ug/L 24-DEC-19 500 F3 (C16-C34) F3-PAH <250 250 ug/L 30-DEC-19 F4 (C34-C50) <250 250 ug/L 24-DEC-19 500 Total Hydrocarbons (C6-C50) <370 370 ug/L 30-DEC-19 Chrom. to baseline at nC50 YES No Unit 24-DEC-19 Surrogate: 2-Bromobenzotrifluoride 97.0 60-140 % 24-DEC-19 Surrogate: 3,4-Dichlorotoluene 63.2 60-140 % 27-DEC-19 **Polycyclic Aromatic Hydrocarbons** Acenaphthene < 0.020 0.020 ug/L 30-DEC-19 4.1 0.020 30-DEC-19 Acenaphthylene < 0.020 ug/L 1 Anthracene < 0.020 0.020 ug/L 30-DEC-19 2.4 Benzo(a)anthracene < 0.020 0.020 ug/L 30-DEC-19 1 < 0.010 0.010 30-DEC-19 0.01 Benzo(a)pyrene ug/L 0.020 30-DEC-19 Benzo(b)fluoranthene < 0.020 ug/L 0.1 ug/L Benzo(g,h,i)perylene < 0.020 0.020 30-DEC-19 0.2 Benzo(k)fluoranthene < 0.020 0.020 ug/L 30-DEC-19 0.1 < 0.020 0.020 ug/L 30-DEC-19 0.1 Chrysene Dibenzo(ah)anthracene < 0.020 0.020 ug/L 30-DEC-19 0.2 Fluoranthene < 0.020 0.020 30-DEC-19 ug/L 0.41 Fluorene < 0.020 0.020 ug/L 30-DEC-19 120 Indeno(1,2,3-cd)pyrene < 0.020 0.020 ug/L 30-DEC-19 0.2 < 0.028 30-DEC-19 1+2-Methylnaphthalenes 0.028 ug/L 3.2 1-Methylnaphthalene < 0.020 0.020 ug/L 30-DEC-19 3.2 2-Methylnaphthalene < 0.020 0.020 ug/L 30-DEC-19 3.2 Naphthalene < 0.050 0.050 ug/L 30-DEC-19 11 Phenanthrene < 0.020 0.020 30-DEC-19 ug/L < 0.020 0.020 ug/L 30-DEC-19 Pvrene 4.1 Surrogate: d10-Acenaphthene 103.1 60-140 % 30-DEC-19 60-140 Surrogate: d12-Chrysene 114.9 % 30-DEC-19 Surrogate: d8-Naphthalene 95.7 60-140 % 30-DEC-19 Surrogate: d10-Phenanthrene 102.7 60-140 % 30-DEC-19 **Semi-Volatile Organics** < 0.40 0.40 ug/L 30-DEC-19 0.5 Biphenyl 4-Chloroaniline < 0.40 0.40 ug/L 30-DEC-19 10 Bis(2-chloroethyl)ether < 0.40 0.40 ug/L 30-DEC-19 5 Bis(2-chloroisopropyl)ether < 0.40 0.40 ug/L 30-DEC-19 120 3,3'-Dichlorobenzidine < 0.40 0.40 ug/L 30-DEC-19 0.5 Diethylphthalate < 0.20 0.20 ug/L 30-DEC-19 38 Dimethylphthalate < 0.20 0.20 ug/L 30-DEC-19 38 2,4-Dimethylphenol < 0.50 0.50 ug/L 30-DEC-19 59 30-DEC-19 2,4-Dinitrophenol <1.0 1.0 ug/L 10 0.40 ug/L 30-DEC-19 2,4-Dinitrotoluene < 0.40 2.6-Dinitrotoluene < 0.40 0.40 ug/L 30-DEC-19 <0.57 0.57 ug/L 30-DEC-19 2,4+2,6-Dinitrotoluene 5 <2.0 2.0 30-DEC-19 10 Bis(2-ethylhexyl)phthalate ug/L Phenol < 0.50 0.50 ug/L 30-DEC-19 890

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2399298-6 MW104 Sampled By: V.PETERS on 20-DEC-19 @ 10:40 #1 Matrix: WATER Semi-Volatile Organics < 0.40 0.40 ug/L 30-DEC-19 70 1,2,4-Trichlorobenzene Surrogate: 2-Fluorobiphenyl 71.2 50-140 % 30-DEC-19 Surrogate: Nitrobenzene d5 75.9 50-140 % 30-DEC-19 60-140 Surrogate: p-Terphenyl d14 84.3 % 30-DEC-19 82.8 50-140 % 30-DEC-19 Surrogate: 2,4,6-Tribromophenol L2399298-7 MW106 Sampled By: V.PETERS on 19-DEC-19 @ 15:45 #1 Matrix: WATER **Physical Tests** 0.0030 mS/cm 21-DEC-19 Conductivity 8.20 рΗ 7.58 HTD 0.10 pH units 23-DEC-19 **Anions and Nutrients** Chloride (CI) 2730 DLHC 10 27-DEC-19 \*790 mg/L **Cyanides** Cyanide, Weak Acid Diss < 2.0 2.0 ug/L 20-DEC-19 66 **Dissolved Metals** Dissolved Mercury Filtration Location **FIELD** No Unit 23-DEC-19 Dissolved Metals Filtration Location **FIELD** No Unit 20-DEC-19 DLHC 1.0 ug/L 20-DEC-19 1000 Barium (Ba)-Dissolved 212 Beryllium (Be)-Dissolved <1.0 DLHC 1.0 ug/L 20-DEC-19 4 <100 DLHC 100 ug/L 20-DEC-19 5000 Boron (B)-Dissolved DLHC Cadmium (Cd)-Dissolved 0.456 0.050 20-DEC-19 ug/L 2.7 Chromium (Cr)-Dissolved <5.0 **DLHC** 5.0 ug/L 20-DEC-19 50 Cobalt (Co)-Dissolved DLHC ug/L 20-DEC-19 <1.0 1.0 3.8 Copper (Cu)-Dissolved 3.2 **DLHC** 2.0 ug/L 20-DEC-19 87 Lead (Pb)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 10 Mercury (Hg)-Dissolved 0.0054 0.0050 ug/L 23-DEC-19 0.29 Molybdenum (Mo)-Dissolved 2.41 **DLHC** 0.50 ug/L 20-DEC-19 70 <5.0 DLHC 5.0 20-DEC-19 100 Nickel (Ni)-Dissolved ug/L Silver (Ag)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 1.5 ug/L < 0.10 DLHC 0.10 20-DEC-19 2 Thallium (TI)-Dissolved DLHC Uranium (U)-Dissolved 0.93 0.10 ug/L 20-DEC-19 20 DLHC 20-DEC-19 Vanadium (V)-Dissolved <5.0 5.0 ug/L 6.2 Zinc (Zn)-Dissolved DLHC 20-DEC-19 17 10 ug/L 1100 **Speciated Metals** 23-DEC-19 Chromium, Hexavalent 2.14 0.50 ug/L 25 **Volatile Organic Compounds** 27-DEC-19 Acetone <30 30 ug/L 2700 27-DEC-19 < 0.50 0.50 ug/L Renzene 5 Bromodichloromethane <2.0 2.0 ug/L 27-DEC-19 16 Bromoform <5.0 5.0 ug/L 27-DEC-19 25 27-DEC-19 Bromomethane < 0.50 0.50 ug/L 0.89 Carbon tetrachloride < 0.20 0.20 ug/L 27-DEC-19 0.79 < 0.50 ug/L 27-DEC-19 Chlorobenzene 0.50 30

<sup>\*\*</sup> 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:



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| CE7 | 51900 |         |
|-----|-------|---------|
| Sa  | mnla  | Details |

| Sample Details Grouping Analyte                                 | Result        | Qualifier | D.L.             | Units        | Analyzed               |            | Guideline Limits |  |
|-----------------------------------------------------------------|---------------|-----------|------------------|--------------|------------------------|------------|------------------|--|
|                                                                 |               |           |                  |              |                        |            | Osisonio Enimo   |  |
| L2399298-7 MW106                                                | FO 40 @ 45-45 |           |                  |              |                        |            |                  |  |
| Sampled By: V.PETERS on 19-D                                    | EU-19 @ 15:45 |           |                  |              |                        | #1         |                  |  |
| Matrix: WATER                                                   |               |           |                  |              |                        |            |                  |  |
| Volatile Organic Compounds                                      |               |           |                  |              |                        |            |                  |  |
| Dibromochloromethane                                            | <2.0          |           | 2.0              | ug/L         | 27-DEC-19              | 25         |                  |  |
| Chloroform                                                      | 5.6           |           | 1.0              | ug/L         | 27-DEC-19              | *2.4       |                  |  |
| 1,2-Dibromoethane                                               | <0.20         |           | 0.20             | ug/L         | 27-DEC-19              | 0.2        |                  |  |
| 1,2-Dichlorobenzene                                             | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 3          |                  |  |
| 1,3-Dichlorobenzene                                             | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 59         |                  |  |
| 1,4-Dichlorobenzene                                             | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 1          |                  |  |
| Dichlorodifluoromethane                                         | <2.0          |           | 2.0              | ug/L         | 27-DEC-19              | 590        |                  |  |
| 1,1-Dichloroethane                                              | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 5          |                  |  |
| 1,2-Dichloroethane                                              | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 1.6        |                  |  |
| 1,1-Dichloroethylene                                            | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 1.6        |                  |  |
| cis-1,2-Dichloroethylene                                        | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 1.6        |                  |  |
| trans-1,2-Dichloroethylene                                      | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 1.6        |                  |  |
| Methylene Chloride                                              | <5.0          |           | 5.0              | ug/L         | 27-DEC-19              | 50         |                  |  |
| 1,2-Dichloropropane                                             | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 5          |                  |  |
| cis-1,3-Dichloropropene                                         | <0.30         |           | 0.30             | ug/L         | 27-DEC-19              |            |                  |  |
| trans-1,3-Dichloropropene                                       | <0.30         |           | 0.30             | ug/L         | 27-DEC-19              |            |                  |  |
| 1,3-Dichloropropene (cis & trans                                | *             |           | 0.50             | ug/L         | 27-DEC-19              | 0.5        |                  |  |
| Ethylbenzene                                                    | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 2.4        |                  |  |
| n-Hexane                                                        | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 51         |                  |  |
| Methyl Ethyl Ketone                                             | <20           |           | 20               | ug/L         | 27-DEC-19              | 1800       |                  |  |
| Methyl Isobutyl Ketone                                          | <20           |           | 20               | ug/L         | 27-DEC-19              | 640        |                  |  |
| MTBE                                                            | <2.0          |           | 2.0              | ug/L         | 27-DEC-19              | 15         |                  |  |
| Styrene                                                         | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 5.4        |                  |  |
| 1,1,1,2-Tetrachloroethane                                       | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 1.1        |                  |  |
| 1,1,2,2-Tetrachloroethane                                       | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 1          |                  |  |
| Tetrachloroethylene                                             | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 1.6        |                  |  |
| Toluene                                                         | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 24         |                  |  |
| 1,1,1-Trichloroethane                                           | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 200        |                  |  |
| 1,1,2-Trichloroethane                                           | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 4.7        |                  |  |
| Trichloroethylene                                               | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 1.6        |                  |  |
| Trichlorofluoromethane                                          | <5.0          |           | 5.0              | ug/L         | 27-DEC-19              | 150        |                  |  |
| Vinyl chloride                                                  | <0.50         |           | 0.50             | ug/L         | 27-DEC-19              | 0.5        |                  |  |
| o-Xylene                                                        | <0.30         |           | 0.30             | ug/L         | 27-DEC-19              |            |                  |  |
| m+p-Xylenes                                                     | <0.40         |           | 0.40             | ug/L         | 27-DEC-19              | 200        |                  |  |
| Xylenes (Total)                                                 | <0.50         |           | 0.50<br>70-130   | ug/L         | 27-DEC-19              | 300        |                  |  |
| Surrogate: 4-Bromofluorobenze<br>Surrogate: 1,4-Difluorobenzene |               |           | 70-130<br>70-130 | %<br>%       | 27-DEC-19<br>27-DEC-19 |            |                  |  |
| Hydrocarbons                                                    | 90.0          |           | 10-130           | /0           | 21-060-19              |            |                  |  |
| *                                                               | <25           |           | 25               | uc/l         | 27-DEC-19              | 750        |                  |  |
| F1 (C6-C10)<br>F1-BTEX                                          | <25<br><25    |           | 25<br>25         | ug/L         | 30-DEC-19              | 750<br>750 |                  |  |
| F2 (C10-C16)                                                    | <100          |           | 25<br>100        | ug/L         | 24-DEC-19              |            |                  |  |
| F2-Naphth                                                       | <100          |           | 100              | ug/L<br>ug/L | 30-DEC-19              | 150        |                  |  |
| F3 (C16-C34)                                                    | <100<br><250  |           | 250              | ug/L<br>ug/L | 24-DEC-19              | 500        |                  |  |
| F3-PAH                                                          | <250          |           | 250              | ug/L<br>ug/L | 30-DEC-19              | 500        |                  |  |
| F4 (C34-C50)                                                    | <250          |           | 250              | ug/L<br>ug/L | 24-DEC-19              | 500        |                  |  |
| Total Hydrocarbons (C6-C50)                                     | <370          |           | 370              | ug/L<br>ug/L | 30-DEC-19              | 300        |                  |  |
| 10.01 1 19010001100113 (00 000)                                 | 7510          |           | 0,0              | 49/L         | 30 020-19              |            |                  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| Sample Details                          |        |           |        |              |                        |      |           |          |  |
|-----------------------------------------|--------|-----------|--------|--------------|------------------------|------|-----------|----------|--|
| Grouping Analyte                        | Result | Qualifier | D.L.   | Units        | Analyzed               |      | Guideline | e Limits |  |
| L2399298-7 MW106                        |        |           |        |              |                        |      |           |          |  |
| Sampled By: V.PETERS on 19-DEC-19 @ 15: | 45     |           |        |              |                        |      |           |          |  |
| Matrix: WATER                           |        |           |        |              |                        | #1   |           |          |  |
| Hydrocarbons                            |        |           |        |              |                        |      |           |          |  |
| Chrom. to baseline at nC50              | YES    |           |        | No Unit      | 24-DEC-19              |      |           |          |  |
| Surrogate: 2-Bromobenzotrifluoride      | 92.5   |           | 60-140 | %            | 24-DEC-19<br>24-DEC-19 |      |           |          |  |
| Surrogate: 3,4-Dichlorotoluene          | 73.0   |           | 60-140 | %<br>%       | 27-DEC-19              |      |           |          |  |
| Polycyclic Aromatic Hydrocarbons        | 7 3.0  |           | 00-140 | /0           | 27 020 13              |      |           |          |  |
| Acenaphthene                            | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 4.1  |           |          |  |
| Acenaphthylene                          | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 1    |           |          |  |
| Anthracene                              | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 2.4  |           |          |  |
| Benzo(a)anthracene                      | <0.020 |           | 0.020  | ug/L<br>ug/L | 30-DEC-19              | 1    |           |          |  |
| Benzo(a)pyrene                          | <0.020 |           | 0.010  | ug/L<br>ug/L | 30-DEC-19              | 0.01 |           |          |  |
| Benzo(b)fluoranthene                    | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 0.1  |           |          |  |
| Benzo(g,h,i)perylene                    | <0.020 |           | 0.020  | ug/L<br>ug/L | 30-DEC-19              | 0.1  |           |          |  |
| Benzo(k)fluoranthene                    | <0.020 |           | 0.020  | ug/L<br>ug/L | 30-DEC-19              | 0.2  |           |          |  |
| Chrysene                                | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 0.1  |           |          |  |
| Dibenzo(ah)anthracene                   | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 0.2  |           |          |  |
| Fluoranthene                            | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 0.41 |           |          |  |
| Fluorene                                | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 120  |           |          |  |
| Indeno(1,2,3-cd)pyrene                  | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 0.2  |           |          |  |
| 1+2-Methylnaphthalenes                  | <0.028 |           | 0.028  | ug/L         | 30-DEC-19              | 3.2  |           |          |  |
| 1-Methylnaphthalene                     | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 3.2  |           |          |  |
| 2-Methylnaphthalene                     | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 3.2  |           |          |  |
| Naphthalene                             | <0.050 |           | 0.050  | ug/L         | 30-DEC-19              | 11   |           |          |  |
| Phenanthrene                            | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 1    |           |          |  |
| Pyrene                                  | <0.020 |           | 0.020  | ug/L         | 30-DEC-19              | 4.1  |           |          |  |
| Surrogate: d10-Acenaphthene             | 102.6  |           | 60-140 | %            | 30-DEC-19              |      |           |          |  |
| Surrogate: d12-Chrysene                 | 108.5  |           | 60-140 | %            | 30-DEC-19              |      |           |          |  |
| Surrogate: d8-Naphthalene               | 90.8   |           | 60-140 | %            | 30-DEC-19              |      |           |          |  |
| Surrogate: d10-Phenanthrene             | 104.1  |           | 60-140 | %            | 30-DEC-19              |      |           |          |  |
| L2399298-8 MW107                        |        |           |        |              |                        |      |           |          |  |
| Sampled By: V.PETERS on 18-DEC-19 @ 12: | 35     |           |        |              |                        |      |           |          |  |
| Matrix: WATER                           |        |           |        |              |                        | #1   |           |          |  |
|                                         |        |           |        |              |                        |      |           |          |  |
| Physical Tests                          |        |           |        |              |                        |      |           |          |  |
| Conductivity                            | 2.71   |           | 0.0030 | mS/cm        | 21-DEC-19              |      |           |          |  |
| pH                                      | 7.78   |           | 0.10   | pH units     | 21-DEC-19              |      |           |          |  |
| Anions and Nutrients                    |        |           |        |              | ]                      |      |           |          |  |
| Chloride (CI)                           | 722    | DLHC      | 2.5    | mg/L         | 27-DEC-19              | 790  |           |          |  |
| Cyanides                                |        |           |        |              |                        |      |           |          |  |
| Cyanide, Weak Acid Diss                 | <2.0   |           | 2.0    | ug/L         | 20-DEC-19              | 66   |           |          |  |
| Dissolved Metals                        |        |           |        |              |                        |      |           |          |  |
| Dissolved Mercury Filtration Location   | FIELD  |           |        | No Unit      | 23-DEC-19              |      |           |          |  |
| Dissolved Metals Filtration Location    | FIELD  |           |        | No Unit      | 20-DEC-19              |      |           |          |  |
| Barium (Ba)-Dissolved                   | 87.2   | DLHC      | 1.0    | ug/L         | 20-DEC-19              | 1000 |           |          |  |
| Beryllium (Be)-Dissolved                | <1.0   | DLHC      | 1.0    | ug/L         | 20-DEC-19              | 4    |           |          |  |
| Boron (B)-Dissolved                     | <100   | DLHC      | 100    | ug/L         | 20-DEC-19              | 5000 |           |          |  |
| Cadmium (Cd)-Dissolved                  | 3.37   | DLHC      | 0.050  | ug/L         | 20-DEC-19              | *2.7 |           |          |  |
| Chromium (Cr)-Dissolved                 | <5.0   | DLHC      | 5.0    | ug/L         | 20-DEC-19              | 50   |           |          |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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CE751900 20-JAN-20 08:56 (MT) Sample Details D.L. Units Grouping Analyte Result Qualifier Analyzed **Guideline Limits** L2399298-8 MW107 Sampled By: V.PETERS on 18-DEC-19 @ 12:35 #1 Matrix: WATER **Dissolved Metals DLHC** 20-DEC-19 Cobalt (Co)-Dissolved <1.0 1.0 ug/L 3.8 DLHC Copper (Cu)-Dissolved <2.0 2.0 ug/L 20-DEC-19 87 < 0.50 DLHC 20-DEC-19 Lead (Pb)-Dissolved 0.50 ug/L 10 < 0.0050 0.0050 Mercury (Hg)-Dissolved ug/L 23-DEC-19 0.29 **DLHC** 0.50 20-DEC-19 Molybdenum (Mo)-Dissolved 1.09 ug/L 70 Nickel (Ni)-Dissolved < 5.0 DLHC 5.0 ug/L 20-DEC-19 100 < 0.50 DLHC 0.50 20-DEC-19 Silver (Ag)-Dissolved ug/L 1.5 Thallium (TI)-Dissolved < 0.10 **DLHC** 0.10 ug/L 20-DEC-19 2 Uranium (U)-Dissolved 0.67 DLHC 0.10 ug/L 20-DEC-19 20 **DLHC** Vanadium (V)-Dissolved <5.0 5.0 ug/L 20-DEC-19 6.2 DLHC 20-DEC-19 1100 Zinc (Zn)-Dissolved 14 10 ug/L **Speciated Metals** Chromium. Hexavalent 0.87 0.50 ua/L 23-DEC-19 25 **Volatile Organic Compounds** 30 27-DEC-19 2700 Acetone <30 ug/L Benzene < 0.50 0.50 27-DEC-19 5 ug/L Bromodichloromethane <2.0 2.0 ug/L 27-DEC-19 16 < 5.0 Bromoform 5.0 ug/L 27-DEC-19 25 Bromomethane < 0.50 0.50 ug/L 27-DEC-19 0.89 Carbon tetrachloride < 0.20 0.20 ug/L 27-DEC-19 0.79 Chlorobenzene < 0.50 0.50 ug/L 27-DEC-19 30 27-DEC-19 Dibromochloromethane <2.0 2.0 ug/L 25 Chloroform 7.8 1.0 ug/L 27-DEC-19 \*2.4 1,2-Dibromoethane < 0.20 0.20 ug/L 27-DEC-19 0.2 27-DEC-19 < 0.50 0.50 ug/L 1,2-Dichlorobenzene 3 27-DEC-19 1,3-Dichlorobenzene < 0.50 0.50 ug/L 59 ug/L 1.4-Dichlorobenzene < 0.50 0.50 27-DEC-19 1 Dichlorodifluoromethane <2.0 2.0 ug/L 27-DEC-19 590 1.1-Dichloroethane < 0.50 0.50 ug/L 27-DEC-19 5 1,2-Dichloroethane < 0.50 0.50 ug/L 27-DEC-19 1.6 1,1-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 0.50 ug/L 27-DEC-19 cis-1,2-Dichloroethylene < 0.50 1.6 trans-1,2-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 5.0 ug/L 27-DEC-19 Methylene Chloride < 5.0 50 0.50 ug/L 27-DEC-19 1,2-Dichloropropane < 0.50 5 27-DEC-19 cis-1,3-Dichloropropene < 0.30 0.30 ug/L 27-DEC-19 trans-1,3-Dichloropropene < 0.30 0.30 ug/L 1,3-Dichloropropene (cis & trans) < 0.50 0.50 ug/L 27-DFC-19 0.5 Ethylbenzene < 0.50 0.50 27-DEC-19 2.4 ug/L n-Hexane < 0.50 0.50 ug/L 27-DEC-19 51 27-DEC-19 Methyl Ethyl Ketone <20 20 ug/L 1800 Methyl Isobutyl Ketone 20 27-DEC-19 <20 ug/L 640 MTBE <2.0 2.0 ug/L 27-DEC-19 15 Styrene < 0.50 0.50 ug/L 27-DEC-19 5.4 1,1,1,2-Tetrachloroethane < 0.50 0.50 ug/L 27-DEC-19 1.1

T2-Ground Water (Coarse Soil)-All Types of Property Use

<sup>\*\*</sup> 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:



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|---------------------------------------|---------------------------------------|-----------|-----------|---------|-----------|------|------------------|---|
| Sample Details                        | Dogult                                | Qualifier | . DI 11-7 |         | A         |      |                  | , |
| Grouping Analyte                      | Result                                | Qualifier | D.L.      | Units   | Analyzed  |      | Guideline Limits |   |
| L2399298-8 MW107                      |                                       |           |           |         |           |      |                  |   |
| Sampled By: V.PETERS on 18-DEC-19 @ 1 | 12:35                                 |           |           |         |           | 44   |                  |   |
| Matrix: WATER                         |                                       |           |           |         |           | #1   |                  |   |
| Volatile Organic Compounds            |                                       |           |           |         |           |      |                  |   |
| 1,1,2,2-Tetrachloroethane             | <0.50                                 |           | 0.50      | ug/L    | 27-DEC-19 | 1    |                  |   |
| Tetrachloroethylene                   | <0.50                                 |           | 0.50      | ug/L    | 27-DEC-19 | 1.6  |                  |   |
| Toluene                               | <0.50                                 |           | 0.50      | ug/L    | 27-DEC-19 | 24   |                  |   |
| 1,1,1-Trichloroethane                 | <0.50                                 |           | 0.50      | ug/L    | 27-DEC-19 | 200  |                  |   |
| 1,1,2-Trichloroethane                 | <0.50                                 |           | 0.50      | ug/L    | 27-DEC-19 | 4.7  |                  |   |
| Trichloroethylene                     | <0.50                                 |           | 0.50      | ug/L    | 27-DEC-19 | 1.6  |                  |   |
| Trichlorofluoromethane                | <5.0                                  |           | 5.0       | ug/L    | 27-DEC-19 | 150  |                  |   |
| Vinyl chloride                        | <0.50                                 |           | 0.50      | ug/L    | 27-DEC-19 | 0.5  |                  |   |
| o-Xylene                              | <0.30                                 |           | 0.30      | ug/L    | 27-DEC-19 |      |                  |   |
| m+p-Xylenes                           | <0.40                                 |           | 0.40      | ug/L    | 27-DEC-19 |      |                  |   |
| Xylenes (Total)                       | <0.50                                 |           | 0.50      | ug/L    | 27-DEC-19 | 300  |                  |   |
| Surrogate: 4-Bromofluorobenzene       | 87.8                                  |           | 70-130    | %       | 27-DEC-19 |      |                  |   |
| Surrogate: 1,4-Difluorobenzene        | 91.5                                  |           | 70-130    | %       | 27-DEC-19 |      |                  |   |
| Hydrocarbons                          |                                       |           |           |         |           |      |                  |   |
| F1 (C6-C10)                           | <25                                   |           | 25        | ug/L    | 27-DEC-19 | 750  |                  |   |
| F1-BTEX                               | <25                                   |           | 25        | ug/L    | 30-DEC-19 | 750  |                  |   |
| F2 (C10-C16)                          | <100                                  |           | 100       | ug/L    | 24-DEC-19 | 150  |                  |   |
| F2-Naphth                             | <100                                  |           | 100       | ug/L    | 30-DEC-19 |      |                  |   |
| F3 (C16-C34)                          | <250                                  |           | 250       | ug/L    | 24-DEC-19 | 500  |                  |   |
| F3-PAH                                | <250                                  |           | 250       | ug/L    | 30-DEC-19 |      |                  |   |
| F4 (C34-C50)                          | <250                                  |           | 250       | ug/L    | 24-DEC-19 | 500  |                  |   |
| Total Hydrocarbons (C6-C50)           | <370                                  |           | 370       | ug/L    | 30-DEC-19 |      |                  |   |
| Chrom. to baseline at nC50            | YES                                   |           |           | No Unit | 24-DEC-19 |      |                  |   |
| Surrogate: 2-Bromobenzotrifluoride    | 100.1                                 |           | 60-140    | %       | 24-DEC-19 |      |                  |   |
| Surrogate: 3,4-Dichlorotoluene        | 72.6                                  |           | 60-140    | %       | 27-DEC-19 |      |                  |   |
| Polycyclic Aromatic Hydrocarbons      |                                       |           |           |         |           |      |                  |   |
| Acenaphthene                          | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 4.1  |                  |   |
| Acenaphthylene                        | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 1    |                  |   |
| Anthracene                            | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 2.4  |                  |   |
| Benzo(a)anthracene                    | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 1    |                  |   |
| Benzo(a)pyrene                        | <0.010                                |           | 0.010     | ug/L    | 30-DEC-19 | 0.01 |                  |   |
| Benzo(b)fluoranthene                  | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 0.1  |                  |   |
| Benzo(g,h,i)perylene                  | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 0.2  |                  |   |
| Benzo(k)fluoranthene                  | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 0.1  |                  |   |
| Chrysene                              | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 0.1  |                  |   |
| Dibenzo(ah)anthracene                 | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 0.2  |                  |   |
| Fluoranthene                          | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 0.41 |                  |   |
| Fluorene                              | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 120  |                  |   |
| Indeno(1,2,3-cd)pyrene                | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 0.2  |                  |   |
| 1+2-Methylnaphthalenes                | <0.028                                |           | 0.028     | ug/L    | 30-DEC-19 | 3.2  |                  |   |
| 1-Methylnaphthalene                   | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 3.2  |                  |   |
| 2-Methylnaphthalene                   | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 3.2  |                  |   |
| Naphthalene                           | <0.050                                |           | 0.050     | ug/L    | 30-DEC-19 | 11   |                  |   |
| Phenanthrene                          | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 1    |                  |   |
| Pyrene                                | <0.020                                |           | 0.020     | ug/L    | 30-DEC-19 | 4.1  |                  |   |
| Surrogate: d10-Acenaphthene           | 106.2                                 |           | 60-140    | %       | 30-DEC-19 |      |                  |   |

<sup>\*\*</sup> 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:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2399298-8 MW107 Sampled By: V.PETERS on 18-DEC-19 @ 12:35 #1 Matrix: WATER **Polycyclic Aromatic Hydrocarbons** Surrogate: d12-Chrysene 114.0 60-140 % 30-DEC-19 96.7 60-140 30-DEC-19 Surrogate: d8-Naphthalene % Surrogate: d10-Phenanthrene 109.1 60-140 30-DEC-19 % L2399298-9 MW107B Sampled By: V.PETERS on 18-DEC-19 @ 13:00 #1 WATER Matrix: **Dissolved Metals** Dissolved Metals Filtration Location **FIELD** No Unit 20-DEC-19 DLHC 1.0 20-DEC-19 Barium (Ba)-Dissolved 109 ug/L 1000 DLHC Beryllium (Be)-Dissolved <1.0 1.0 ug/L 20-DEC-19 4 <100 DLHC 100 20-DEC-19 Boron (B)-Dissolved ug/L 5000 Cadmium (Cd)-Dissolved < 0.050 DLHC 0.050 ug/L 20-DEC-19 2.7 ug/L Chromium (Cr)-Dissolved 5.5 DLHC 5.0 20-DEC-19 50 DLHC 20-DEC-19 Cobalt (Co)-Dissolved <1.0 1.0 ug/L 3.8 Copper (Cu)-Dissolved 4.7 DLHC 2.0 ug/L 20-DEC-19 87 < 0.50 DLHC Lead (Pb)-Dissolved 0.50 ug/L 20-DEC-19 10 Molybdenum (Mo)-Dissolved 0.68 DLHC 0.50 ug/L 20-DEC-19 70 Nickel (Ni)-Dissolved <5.0 DLHC 5.0 ug/L 20-DEC-19 100 Silver (Ag)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 1.5 Thallium (TI)-Dissolved <0.10 DLHC 0.10 ug/L 20-DEC-19 2 Uranium (U)-Dissolved 1.30 DLHC 0.10 ug/L 20-DEC-19 20 Vanadium (V)-Dissolved < 5.0 DLHC 5.0 ug/L 20-DEC-19 6.2 12 DLHC 10 ug/L 20-DEC-19 Zinc (Zn)-Dissolved 1100 L2399298-10 MW108 Sampled By: V.PETERS on 19-DEC-19 @ 10:50 #1 WATER Matrix: **Physical Tests** Conductivity 0.0030 mS/cm 21-DEC-19 1.88 0.10 21-DEC-19 pН 7.73 pH units **Anions and Nutrients** Chloride (CI) 272 DLHC 2.5 mg/L 27-DEC-19 790 **Cyanides** Cyanide, Weak Acid Diss <2.0 2.0 ug/L 20-DEC-19 66 **Dissolved Metals** Dissolved Mercury Filtration Location **FIELD** No Unit 23-DEC-19 Dissolved Metals Filtration Location **FIELD** No Unit 20-DEC-19 Barium (Ba)-Dissolved 93.3 0.10 ug/L 23-DEC-19 1000 Beryllium (Be)-Dissolved < 0.10 0.10 ug/L 23-DEC-19 4 60 10 ug/L 23-DEC-19 Boron (B)-Dissolved 5000 Cadmium (Cd)-Dissolved 0.017 0.010 ug/L 23-DEC-19 2.7 Chromium (Cr)-Dissolved < 0.50 0.50 ug/L 23-DEC-19 50 Cobalt (Co)-Dissolved 0.37 0.10 ug/L 23-DEC-19 3.8 Copper (Cu)-Dissolved 2.02 0.20 ug/L 23-DEC-19 87

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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#### ANALYTICAL GUIDELINE REPORT

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20-JAN-20 08:56 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2399298-10 MW108 Sampled By: V.PETERS on 19-DEC-19 @ 10:50 #1 Matrix: WATER **Dissolved Metals** Lead (Pb)-Dissolved 0.066 23-DEC-19 0.050 ug/L 10 Mercury (Hg)-Dissolved < 0.0050 0.0050 ug/L 23-DEC-19 0.29 Molybdenum (Mo)-Dissolved 2.70 0.050 ug/L 23-DEC-19 70 23-DEC-19 Nickel (Ni)-Dissolved 3.36 0.50 ug/L 100 Silver (Ag)-Dissolved < 0.050 0.050 23-DEC-19 ug/L 1.5 0.042 0.010 23-DEC-19 Thallium (TI)-Dissolved ug/L 2 Uranium (U)-Dissolved 3.25 0.010 ug/L 23-DEC-19 20 Vanadium (V)-Dissolved < 0.50 0.50 ug/L 23-DEC-19 62 Zinc (Zn)-Dissolved 2.9 23-DEC-19 1.0 ug/L 1100 **Speciated Metals** Chromium, Hexavalent < 0.50 0.50 23-DEC-19 25 ug/L **Volatile Organic Compounds** 27-DEC-19 Acetone <30 30 ug/L 2700 Benzene < 0.50 0.50 ug/L 27-DEC-19 5 Bromodichloromethane <2.0 2.0 ug/L 27-DEC-19 16 Bromoform <5.0 5.0 ug/L 27-DEC-19 25 Bromomethane < 0.50 0.50 ug/L 27-DEC-19 0.89 Carbon tetrachloride < 0.20 0.20 ug/L 27-DEC-19 0.79 0.50 27-DEC-19 Chlorobenzene < 0.50 ug/L 30 27-DEC-19 Dibromochloromethane < 2.0 2.0 ug/L 25 Chloroform <1.0 1.0 ug/L 27-DEC-19 2.4 1,2-Dibromoethane < 0.20 0.20 ug/L 27-DEC-19 0.2 1.2-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 3 1,3-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 59 1,4-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 1 Dichlorodifluoromethane <2.0 2.0 ug/L 27-DEC-19 590 1,1-Dichloroethane 0.56 0.50 ug/L 27-DEC-19 5 ug/L < 0.50 0.50 27-DEC-19 1,2-Dichloroethane 1.6 1,1-Dichloroethylene < 0.50 0.50 ug/L 27-DFC-19 1.6 cis-1,2-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 < 0.50 0.50 27-DEC-19 trans-1,2-Dichloroethylene ug/L 1.6 Methylene Chloride <5.0 27-DEC-19 50 5.0 ug/L < 0.50 27-DEC-19 1,2-Dichloropropane 0.50 ug/L 5 cis-1,3-Dichloropropene < 0.30 0.30 ug/L 27-DEC-19 trans-1,3-Dichloropropene < 0.30 0.30 ug/L 27-DEC-19 1,3-Dichloropropene (cis & trans) < 0.50 0.50 ug/L 27-DEC-19 0.5 Ethylbenzene 0.50 ug/L 27-DEC-19 2.4 < 0.50 27-DEC-19 n-Hexane < 0.50 0.50 ug/L 51 <20 20 ug/L 27-DEC-19 Methyl Ethyl Ketone 1800 Methyl Isobutyl Ketone <20 20 ug/L 27-DEC-19 640 MTBE <2.0 2.0 ug/L 27-DEC-19 15 < 0.50 0.50 27-DEC-19 Styrene ug/L 5.4 1,1,1,2-Tetrachloroethane 0.50 27-DEC-19 < 0.50 ug/L 1.1 < 0.50 0.50 27-DEC-19 1,1,2,2-Tetrachloroethane ug/L 1 Tetrachloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6

<sup>\*\*</sup> 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:



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|---------------------------------------|---------|-----------------------------|---------------------------------------|-------------|-----------|------|------------------|--|--|
| Sample Details<br>Grouping Analyte    | Pacult  | Result Qualifier D.L. Units |                                       |             |           |      | Guideline Limits |  |  |
| ,                                     | IXESUIL | Qualifier                   |                                       |             | Analyzed  |      | Guideline Limits |  |  |
| _2399298-10 MW108                     |         |                             |                                       |             |           |      |                  |  |  |
| Sampled By: V.PETERS on 19-DEC-19 @ 1 | 0:50    |                             |                                       |             |           | #1   |                  |  |  |
| Matrix: WATER                         |         |                             |                                       |             |           |      |                  |  |  |
| Volatile Organic Compounds            |         |                             |                                       |             |           |      |                  |  |  |
| Toluene                               | <0.50   |                             | 0.50                                  | ug/L        | 27-DEC-19 | 24   |                  |  |  |
| 1,1,1-Trichloroethane                 | <0.50   |                             | 0.50                                  | ug/L        | 27-DEC-19 | 200  |                  |  |  |
| 1,1,2-Trichloroethane                 | <0.50   |                             | 0.50                                  | ug/L        | 27-DEC-19 | 4.7  |                  |  |  |
| Trichloroethylene                     | <0.50   |                             | 0.50                                  | ug/L        | 27-DEC-19 | 1.6  |                  |  |  |
| Trichlorofluoromethane                | <5.0    |                             | 5.0                                   | ug/L        | 27-DEC-19 | 150  |                  |  |  |
| Vinyl chloride                        | <0.50   |                             | 0.50                                  | ug/L        | 27-DEC-19 | 0.5  |                  |  |  |
| o-Xylene                              | <0.30   |                             | 0.30                                  | ug/L        | 27-DEC-19 |      |                  |  |  |
| m+p-Xylenes                           | <0.40   |                             | 0.40                                  | ug/L        | 27-DEC-19 |      |                  |  |  |
| Xylenes (Total)                       | <0.50   |                             | 0.50                                  | ug/L        | 27-DEC-19 | 300  |                  |  |  |
| Surrogate: 4-Bromofluorobenzene       | 89.8    |                             | 70-130                                | %           | 27-DEC-19 |      |                  |  |  |
| Surrogate: 1,4-Difluorobenzene        | 91.0    |                             | 70-130                                | %           | 27-DEC-19 |      |                  |  |  |
| Hydrocarbons                          |         |                             |                                       |             |           |      |                  |  |  |
| F1 (C6-C10)                           | <25     |                             | 25                                    | ug/L        | 27-DEC-19 | 750  |                  |  |  |
| F1-BTEX                               | <25     |                             | 25                                    | ug/L        | 30-DEC-19 | 750  |                  |  |  |
| F2 (C10-C16)                          | <100    |                             | 100                                   | ug/L        | 24-DEC-19 | 150  |                  |  |  |
| F2-Naphth                             | <100    |                             | 100                                   | ug/L        | 30-DEC-19 |      |                  |  |  |
| F3 (C16-C34)                          | <250    |                             | 250                                   | ug/L        | 24-DEC-19 | 500  |                  |  |  |
| F3-PAH                                | <250    |                             | 250                                   | ug/L        | 30-DEC-19 |      |                  |  |  |
| F4 (C34-C50)                          | <250    |                             | 250                                   | ug/L        | 24-DEC-19 | 500  |                  |  |  |
| Total Hydrocarbons (C6-C50)           | <370    |                             | 370                                   | ug/L        | 30-DEC-19 |      |                  |  |  |
| Chrom. to baseline at nC50            | YES     |                             |                                       | No Unit     | 24-DEC-19 |      |                  |  |  |
| Surrogate: 2-Bromobenzotrifluoride    | 99.2    |                             | 60-140                                | %           | 24-DEC-19 |      |                  |  |  |
| Surrogate: 3,4-Dichlorotoluene        | 73.9    |                             | 60-140                                | %           | 27-DEC-19 |      |                  |  |  |
| Polycyclic Aromatic Hydrocarbons      |         |                             |                                       |             |           |      |                  |  |  |
| Acenaphthene                          | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 4.1  |                  |  |  |
| Acenaphthylene                        | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 1    |                  |  |  |
| Anthracene                            | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 2.4  |                  |  |  |
| Benzo(a)anthracene                    | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 1    |                  |  |  |
| Benzo(a)pyrene                        | <0.010  |                             | 0.010                                 | ug/L        | 30-DEC-19 | 0.01 |                  |  |  |
| Benzo(b)fluoranthene                  | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 0.1  |                  |  |  |
| Benzo(g,h,i)perylene                  | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 0.2  |                  |  |  |
| Benzo(k)fluoranthene                  | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 0.1  |                  |  |  |
| Chrysene                              | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 0.1  |                  |  |  |
| Dibenzo(ah)anthracene                 | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 0.2  |                  |  |  |
| Fluoranthene                          | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 0.41 |                  |  |  |
| Fluorene                              | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 120  |                  |  |  |
| Indeno(1,2,3-cd)pyrene                | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 0.2  |                  |  |  |
| 1+2-Methylnaphthalenes                | <0.028  |                             | 0.028                                 | ug/L        | 30-DEC-19 | 3.2  |                  |  |  |
| 1-Methylnaphthalene                   | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 3.2  |                  |  |  |
| 2-Methylnaphthalene                   | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 3.2  |                  |  |  |
| Naphthalene                           | <0.050  |                             | 0.050                                 | ug/L        | 30-DEC-19 | 11   |                  |  |  |
| Phenanthrene                          | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 1    |                  |  |  |
| Pyrene                                | <0.020  |                             | 0.020                                 | ug/L        | 30-DEC-19 | 4.1  |                  |  |  |
| Surrogate: d10-Acenaphthene           | 103.9   |                             | 60-140                                | ug/L<br>  % | 30-DEC-19 | 7.1  |                  |  |  |
| Surrogate: d12-Chrysene               | 107.4   |                             | 60-140                                | %           | 30-DEC-19 |      |                  |  |  |
| Surrogate: d8-Naphthalene             | 98.0    |                             | 60-140                                | %           | 30-DEC-19 |      |                  |  |  |

<sup>\*\*</sup> 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:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2399298-10 MW108 Sampled By: V.PETERS on 19-DEC-19 @ 10:50 #1 Matrix: WATER **Polycyclic Aromatic Hydrocarbons** Surrogate: d10-Phenanthrene 104.6 60-140 % 30-DEC-19 L2399298-11 MW109 Sampled By: V.PETERS on 19-DEC-19 @ 08:45 #1 WATER Matrix: **Physical Tests** Conductivity 1.81 0.0030 mS/cm 21-DEC-19 рΗ 8.22 0.10 pH units 21-DEC-19 **Anions and Nutrients** Chloride (CI) 459 DLHC 2.5 mg/L 27-DEC-19 790 Cyanides Cyanide, Weak Acid Diss <2.0 2.0 ug/L 20-DEC-19 66 **Dissolved Metals** Dissolved Mercury Filtration Location **FIELD** No Unit 23-DEC-19 Dissolved Metals Filtration Location **FIELD** No Unit 20-DEC-19 Barium (Ba)-Dissolved 38.9 DLHC 1.0 ug/L 20-DEC-19 1000 **DLHC** Beryllium (Be)-Dissolved <1.0 1.0 ug/L 20-DEC-19 4 DLHC Boron (B)-Dissolved <100 100 ug/L 20-DEC-19 5000 < 0.050 DLHC 0.050 20-DEC-19 Cadmium (Cd)-Dissolved ug/L 2.7 DLHC 5.0 20-DEC-19 Chromium (Cr)-Dissolved < 5.0 ug/L 50 DLHC 20-DEC-19 Cobalt (Co)-Dissolved <1.0 1.0 ug/L 3.8 Copper (Cu)-Dissolved 2.5 DLHC 2.0 ug/L 20-DEC-19 87 Lead (Pb)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 10 <0.0050 Mercury (Hg)-Dissolved 0.0050 ug/L 23-DEC-19 0.29 Molybdenum (Mo)-Dissolved 4.47 **DLHC** 0.50 ug/L 20-DEC-19 70 Nickel (Ni)-Dissolved <5.0 DLHC 5.0 ug/L 20-DEC-19 100 Silver (Ag)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 1.5 Thallium (TI)-Dissolved < 0.10 DLHC 0.10 ug/L 20-DEC-19 2 0.37 DLHC 0.10 20-DEC-19 Uranium (U)-Dissolved ug/L 20 DLHC 20-DEC-19 Vanadium (V)-Dissolved < 5.0 5.0 ug/L 6.2 Zinc (Zn)-Dissolved <10 **DLHC** 10 ug/L 20-DEC-19 1100 **Speciated Metals** Chromium, Hexavalent 2.05 0.50 ug/L 23-DEC-19 25 **Volatile Organic Compounds** Acetone <30 30 ug/L 27-DEC-19 2700 < 0.50 0.50 ug/L 27-DEC-19 Benzene 5 Bromodichloromethane <2.0 2.0 ug/L 27-DEC-19 16 ug/L Bromoform <5.0 5.0 27-DEC-19 25 0.50 27-DEC-19 Bromomethane < 0.50 ug/L 0.89 0.20 27-DEC-19 Carbon tetrachloride < 0.20 ug/L 0.79 0.50 27-DEC-19 Chlorobenzene < 0.50 ug/L 30 Dibromochloromethane < 2.0 2.0 ug/L 27-DEC-19 25 ug/L 27-DEC-19 2.4 Chloroform <1.0 1.0 1,2-Dibromoethane < 0.20 0.20 ug/L 27-DEC-19 0.2 27-DEC-19

< 0.50

0.50

ug/L

3

1,2-Dichlorobenzene

<sup>\*\*</sup> 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:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2399298-11 MW109 Sampled By: V.PETERS on 19-DEC-19 @ 08:45 #1 Matrix: WATER **Volatile Organic Compounds** 0.50 27-DEC-19 1,3-Dichlorobenzene < 0.50 ug/L 59 1,4-Dichlorobenzene < 0.50 0.50 ug/L 27-DEC-19 1 Dichlorodifluoromethane <2.0 2.0 ug/L 27-DEC-19 590 27-DEC-19 1,1-Dichloroethane < 0.50 0.50 ug/L 5 1,2-Dichloroethane 0.50 27-DEC-19 < 0.50 ug/L 1.6 0.50 27-DEC-19 1,1-Dichloroethylene < 0.50 ug/L 1.6 cis-1,2-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 1.6 trans-1,2-Dichloroethylene < 0.50 0.50 ug/L 27-DEC-19 16 5.0 ug/L 27-DEC-19 50 Methylene Chloride < 5.0 0.50 ug/L 27-DEC-19 1,2-Dichloropropane < 0.50 5 cis-1,3-Dichloropropene < 0.30 0.30 ug/L 27-DEC-19 trans-1,3-Dichloropropene < 0.30 0.30 ug/L 27-DEC-19 1,3-Dichloropropene (cis & trans) < 0.50 0.50 ug/L 27-DEC-19 0.5 Ethylbenzene < 0.50 0.50 ug/L 27-DEC-19 2.4 27-DEC-19 <0.50 0.50 ug/L 51 n-Hexane Methyl Ethyl Ketone 27-DEC-19 1800 <20 20 ug/L Methyl Isobutyl Ketone <20 27-DEC-19 640 20 ug/L MTBE < 2.0 2.0 ug/L 27-DEC-19 15 Styrene < 0.50 0.50 ug/L 27-DEC-19 5.4 27-DEC-19 1,1,1,2-Tetrachloroethane < 0.50 0.50 ug/L 1.1 1,1,2,2-Tetrachloroethane < 0.50 0.50 ug/L 27-DEC-19 1 0.50 Tetrachloroethylene < 0.50 ug/L 27-DEC-19 1.6 Toluene < 0.50 0.50 ug/L 27-DEC-19 24 1,1,1-Trichloroethane < 0.50 0.50 ug/L 27-DEC-19 200 1,1,2-Trichloroethane < 0.50 0.50 ug/L 27-DEC-19 4.7 Trichloroethylene < 0.50 0.50 ug/L 27-DEC-19 16 Trichlorofluoromethane ug/L 27-DEC-19 < 5.0 5.0 150 Vinyl chloride 0.50 ug/L 27-DEC-19 < 0.50 0.5 0.30 27-DEC-19 o-Xylene < 0.30 ug/L 0.40 ug/L 27-DEC-19 m+p-Xylenes < 0.40 Xylenes (Total) < 0.50 0.50 ug/L 27-DEC-19 300 Surrogate: 4-Bromofluorobenzene 88.4 70-130 % 27-DEC-19 Surrogate: 1,4-Difluorobenzene 91.5 70-130 27-DEC-19 % Hydrocarbons ug/L 750 F1 (C6-C10) <25 25 27-DEC-19 F1-BTEX <25 25 ug/L 30-DEC-19 750 F2 (C10-C16) <100 100 ug/L 24-DEC-19 150 F2-Naphth 100 ug/L 30-DEC-19 <100 F3 (C16-C34) <250 250 ug/L 24-DEC-19 500 F3-PAH <250 250 ug/L 30-DEC-19 <250 250 ug/L 24-DEC-19 F4 (C34-C50) 500 Total Hydrocarbons (C6-C50) <370 370 ug/L 30-DEC-19 YES No Unit 24-DEC-19 Chrom. to baseline at nC50 108.4 60-140 % 24-DEC-19 Surrogate: 2-Bromobenzotrifluoride 76.6 60-140 % 27-DEC-19 Surrogate: 3,4-Dichlorotoluene **Polycyclic Aromatic Hydrocarbons** 

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:



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## **ANALYTICAL GUIDELINE REPORT**

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| Sample Details 20-JAN-20 08:56 (MT)    |        |           |        |         |           |       |                  |  |
|----------------------------------------|--------|-----------|--------|---------|-----------|-------|------------------|--|
| Grouping Analyte                       | Result | Qualifier | D.L.   | Units   | Analyzed  |       | Guideline Limits |  |
| L2399298-11 MW109                      |        |           |        |         |           |       |                  |  |
| Sampled By: V.PETERS on 19-DEC-19 @ 08 | 8:45   |           |        |         |           |       |                  |  |
| Matrix: WATER                          |        |           |        |         |           | #1    |                  |  |
| Polycyclic Aromatic Hydrocarbons       |        |           |        |         |           |       |                  |  |
| Acenaphthene                           | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 4.1   |                  |  |
| Acenaphthylene                         | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 1     |                  |  |
| Anthracene                             | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 2.4   |                  |  |
| Benzo(a)anthracene                     | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 1     |                  |  |
| Benzo(a)pyrene                         | <0.010 |           | 0.010  | ug/L    | 30-DEC-19 | 0.01  |                  |  |
| Benzo(b)fluoranthene                   | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.1   |                  |  |
| Benzo(g,h,i)perylene                   | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.2   |                  |  |
| Benzo(k)fluoranthene                   | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.1   |                  |  |
| Chrysene                               | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.1   |                  |  |
| Dibenzo(ah)anthracene                  | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.2   |                  |  |
| Fluoranthene                           | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.41  |                  |  |
| Fluorene                               | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 120   |                  |  |
| Indeno(1,2,3-cd)pyrene                 | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 0.2   |                  |  |
| 1+2-Methylnaphthalenes                 | <0.028 |           | 0.028  | ug/L    | 30-DEC-19 | 3.2   |                  |  |
| 1-Methylnaphthalene                    | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 3.2   |                  |  |
| 2-Methylnaphthalene                    | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 3.2   |                  |  |
| Naphthalene                            | <0.050 |           | 0.050  | ug/L    | 30-DEC-19 | 11    |                  |  |
| Phenanthrene                           | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 1     |                  |  |
| Pyrene                                 | <0.020 |           | 0.020  | ug/L    | 30-DEC-19 | 4.1   |                  |  |
| Surrogate: d10-Acenaphthene            | 107.0  |           | 60-140 | %<br>%  | 30-DEC-19 | 4.1   |                  |  |
| Surrogate: d12-Chrysene                | 110.3  |           | 60-140 | %       | 30-DEC-19 |       |                  |  |
| Surrogate: d8-Naphthalene              | 98.3   |           | 60-140 | %       | 30-DEC-19 |       |                  |  |
| Surrogate: d10-Phenanthrene            | 106.4  |           | 60-140 | %       | 30-DEC-19 |       |                  |  |
| L2399298-12 MW110A                     |        |           |        |         |           |       |                  |  |
| Sampled By: V.PETERS on 20-DEC-19 @ 0  | Q-55   |           |        |         |           |       |                  |  |
| Matrix: WATER                          | 0.50   |           |        |         |           | #1    |                  |  |
|                                        |        |           |        |         |           |       |                  |  |
| Dissolved Metals                       |        |           |        |         |           |       |                  |  |
| Dissolved Metals Filtration Location   | FIELD  |           |        | No Unit | 20-DEC-19 |       |                  |  |
| Barium (Ba)-Dissolved                  | 744    | DLHC      | 10     | ug/L    | 20-DEC-19 | 1000  |                  |  |
| Beryllium (Be)-Dissolved               | <10    | DLHC      | 10     | ug/L    | 20-DEC-19 | **4   |                  |  |
| Boron (B)-Dissolved                    | <1000  | DLHC      | 1000   | ug/L    | 20-DEC-19 | 5000  |                  |  |
| Cadmium (Cd)-Dissolved                 | 1.50   | DLHC      | 0.50   | ug/L    | 20-DEC-19 | 2.7   |                  |  |
| Chromium (Cr)-Dissolved                | <50    | DLHC      | 50     | ug/L    | 20-DEC-19 | 50    |                  |  |
| Cobalt (Co)-Dissolved                  | <10    | DLHC      | 10     | ug/L    | 20-DEC-19 | **3.8 |                  |  |
| Copper (Cu)-Dissolved                  | <20    | DLHC      | 20     | ug/L    | 20-DEC-19 | 87    |                  |  |
| Lead (Pb)-Dissolved                    | <5.0   | DLHC      | 5.0    | ug/L    | 20-DEC-19 | 10    |                  |  |
| Molybdenum (Mo)-Dissolved              | <5.0   | DLHC      | 5.0    | ug/L    | 20-DEC-19 | 70    |                  |  |
| Nickel (Ni)-Dissolved                  | <50    | DLHC      | 50     | ug/L    | 20-DEC-19 | 100   |                  |  |
| Silver (Ag)-Dissolved                  | <5.0   | DLHC      | 5.0    | ug/L    | 20-DEC-19 | **1.5 |                  |  |
| Thallium (TI)-Dissolved                | <1.0   | DLHC      | 1.0    | ug/L    | 20-DEC-19 | 2     |                  |  |
| Uranium (U)-Dissolved                  | 1.8    | DLHC      | 1.0    | ug/L    | 20-DEC-19 | 20    |                  |  |
| Vanadium (V)-Dissolved                 | <50    | DLHC      | 50     | ug/L    | 20-DEC-19 | **6.2 |                  |  |
| Zinc (Zn)-Dissolved                    | <100   | DLHC      | 100    | ug/L    | 20-DEC-19 | 1100  |                  |  |
|                                        |        |           |        |         |           |       |                  |  |
|                                        |        |           |        |         |           |       |                  |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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#### ANALYTICAL GUIDELINE REPORT

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20-JAN-20 08:56 (MT) Sample Details Qualifier D.L. Units Grouping Analyte Result Analyzed **Guideline Limits** L2399298-13 MW110B Sampled By: V.PETERS on 20-DEC-19 @ 09:40 #1 Matrix: WATER **Dissolved Metals** Dissolved Metals Filtration Location **FIELD** No Unit 20-DEC-19 Barium (Ba)-Dissolved 147 DLHC 1.0 ug/L 20-DEC-19 1000 Beryllium (Be)-Dissolved <1.0 DLHC 1.0 ug/L 20-DEC-19 4 Boron (B)-Dissolved 120 DLHC 100 ug/L 20-DEC-19 5000 Cadmium (Cd)-Dissolved 0.109 DLHC 0.050 ug/L 20-DEC-19 2.7 Chromium (Cr)-Dissolved <5.0 DLHC 5.0 ug/L 20-DEC-19 50 DLHC Cobalt (Co)-Dissolved ug/L 20-DEC-19 <1.0 1.0 3.8 DLHC 20-DEC-19 Copper (Cu)-Dissolved 4.9 2.0 ug/L 87 DLHC 0.50 20-DEC-19 Lead (Pb)-Dissolved < 0.50 ug/L 10 Molybdenum (Mo)-Dissolved 1.14 DLHC 0.50 ug/L 20-DEC-19 70 Nickel (Ni)-Dissolved <5.0 DLHC 5.0 ug/L 20-DEC-19 100 Silver (Ag)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 1.5 Thallium (TI)-Dissolved <0.10 DLHC 0.10 ug/L 20-DEC-19 2 1.40 DLHC 0.10 20-DEC-19 20 Uranium (U)-Dissolved ug/L Vanadium (V)-Dissolved < 5.0 DLHC 5.0 ug/L 20-DEC-19 6.2 Zinc (Zn)-Dissolved DLHC 10 ug/L 20-DEC-19 1100 16 L2399298-14 MW111 Sampled By: V.PETERS on 19-DEC-19 @ 14:40 #1 WATER Matrix: **Dissolved Metals** Dissolved Metals Filtration Location **FIELD** No Unit 20-DEC-19 102 DLHC 1.0 20-DEC-19 1000 Barium (Ba)-Dissolved ug/L Beryllium (Be)-Dissolved <1.0 DLHC 1.0 ug/L 20-DEC-19 Boron (B)-Dissolved 240 DLHC 100 ug/L 20-DEC-19 5000 <0.050 **DLHC** 0.050 20-DEC-19 Cadmium (Cd)-Dissolved ug/L 2.7 DLHC 20-DEC-19 Chromium (Cr)-Dissolved 9.3 5.0 ug/L 50 DLHC 20-DEC-19 Cobalt (Co)-Dissolved <1.0 1.0 ug/L 3.8 Copper (Cu)-Dissolved 5.3 DLHC 2.0 ug/L 20-DEC-19 87 Lead (Pb)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 10 **DLHC** Molybdenum (Mo)-Dissolved 1.17 0.50 ug/L 20-DEC-19 70 DLHC Nickel (Ni)-Dissolved < 5.0 5.0 ug/L 20-DEC-19 100 DLHC 20-DEC-19 Silver (Ag)-Dissolved < 0.50 0.50 ug/L 1.5 Thallium (TI)-Dissolved < 0.10 DLHC 0.10 ug/L 20-DEC-19 2 DLHC 20-DEC-19 20 Uranium (U)-Dissolved 1.84 0.10 ug/L **DLHC** Vanadium (V)-Dissolved < 5.0 5.0 ug/L 20-DEC-19 6.2 Zinc (Zn)-Dissolved <10 **DLHC** 10 ug/L 20-DEC-19 1100 L2399298-15 DUP1 Sampled By: V.PETERS on 19-DEC-19 #1 Matrix: WATER **Physical Tests** 0.0030 21-DEC-19 Conductivity 1.82 mS/cm 21-DEC-19 8.23 0.10 pH units pН **Anions and Nutrients** 

T2-Ground Water (Coarse Soil)-All Types of Property Use

<sup>\*\*</sup> 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:



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| 751900                                                 | ANALII         | ICAL                                 | Page 29 of 38<br>20-JAN-20 08:56 (MT) |                |                        |            |   |   |
|--------------------------------------------------------|----------------|--------------------------------------|---------------------------------------|----------------|------------------------|------------|---|---|
| Sample Details<br>Grouping Analyte                     | Result         | Result Qualifier D.L. Units Analyzed |                                       |                |                        |            |   |   |
| 2399298-15 DUP1                                        |                |                                      |                                       |                |                        |            |   |   |
| Campled By: V.PETERS on 19-DEC-19                      |                |                                      |                                       |                |                        |            |   |   |
| Matrix: WATER                                          |                |                                      |                                       |                |                        | #1         |   |   |
| Anions and Nutrients                                   |                |                                      |                                       |                |                        |            |   |   |
| Chloride (CI)                                          | 469            | DLHC                                 | 2.5                                   | mg/L           | 27-DEC-19              | 790        |   |   |
| Cyanides                                               | 409            | DLITC                                | 2.5                                   | IIIg/L         | 27-020-19              | 790        |   |   |
| Cyanide, Weak Acid Diss                                | <2.0           |                                      | 2.0                                   | ug/L           | 20-DEC-19              | 66         |   |   |
| Dissolved Metals                                       | <2.0           |                                      | 2.0                                   | ug/L           | 20-020-19              | 00         |   |   |
| Dissolved Mercury Filtration Location                  | FIELD          |                                      |                                       | No Unit        | 23-DEC-19              |            |   |   |
| Dissolved Metals Filtration Location                   | FIELD          |                                      |                                       | No Unit        | 20-DEC-19              |            |   |   |
| Barium (Ba)-Dissolved                                  | 39.9           | DLHC                                 | 1.0                                   | ug/L           | 20-DEC-19              | 1000       |   |   |
| Beryllium (Be)-Dissolved                               | <1.0           | DLHC                                 | 1.0                                   | ug/L           | 20-DEC-19              | 4          |   |   |
| Boron (B)-Dissolved                                    | <100           | DLHC                                 | 100                                   | ug/L           | 20-DEC-19              | 5000       |   |   |
| Cadmium (Cd)-Dissolved                                 | <0.050         | DLHC                                 | 0.050                                 | ug/L           | 20-DEC-19              | 2.7        |   |   |
| Chromium (Cr)-Dissolved                                | <5.0           | DLHC                                 | 5.0                                   | ug/L           | 20-DEC-19              | 50         |   |   |
| Cobalt (Co)-Dissolved                                  | <1.0           | DLHC                                 | 1.0                                   | ug/L           | 20-DEC-19              | 3.8        |   |   |
| Copper (Cu)-Dissolved                                  | <2.0           | DLHC                                 | 2.0                                   | ug/L           | 20-DEC-19              | 87         |   |   |
| Lead (Pb)-Dissolved                                    | <0.50          | DLHC                                 | 0.50                                  | ug/L           | 20-DEC-19              | 10         |   |   |
| Mercury (Hg)-Dissolved                                 | <0.0050        |                                      | 0.0050                                | ug/L           | 23-DEC-19              | 0.29       |   |   |
| Molybdenum (Mo)-Dissolved                              | 4.53           | DLHC                                 | 0.50                                  | ug/L           | 20-DEC-19              | 70         |   |   |
| Nickel (Ni)-Dissolved                                  | <5.0           | DLHC                                 | 5.0                                   | ug/L           | 20-DEC-19              | 100        |   |   |
| Silver (Ag)-Dissolved                                  | <0.50          | DLHC                                 | 0.50                                  | ug/L           | 20-DEC-19              | 1.5        |   |   |
| Thallium (TI)-Dissolved                                | <0.10          | DLHC                                 | 0.10                                  | ug/L           | 20-DEC-19              | 2          |   |   |
| Uranium (U)-Dissolved                                  | 0.38           | DLHC                                 | 0.10                                  | ug/L           | 20-DEC-19              | 20         |   |   |
| Vanadium (V)-Dissolved                                 | <5.0           | DLHC                                 | 5.0                                   | ug/L           | 20-DEC-19              | 6.2        |   |   |
| Zinc (Zn)-Dissolved                                    | <10            | DLHC                                 | 10                                    | ug/L           | 20-DEC-19              | 1100       |   |   |
| Speciated Metals                                       |                |                                      |                                       |                |                        |            |   |   |
| Chromium, Hexavalent                                   | 2.04           |                                      | 0.50                                  | ug/L           | 23-DEC-19              | 25         |   |   |
| Volatile Organic Compounds                             |                |                                      |                                       |                |                        |            |   |   |
| Acetone                                                | <30            |                                      | 30                                    | ug/L           | 27-DEC-19              | 2700       |   |   |
| Benzene                                                | <0.50          |                                      | 0.50                                  | ug/L           | 27-DEC-19              | 5          |   |   |
| Bromodichloromethane                                   | <2.0           |                                      | 2.0                                   | ug/L           | 27-DEC-19              | 16         |   |   |
| Bromoform                                              | <5.0           |                                      | 5.0                                   | ug/L           | 27-DEC-19              | 25         |   |   |
| Bromomethane                                           | <0.50          |                                      | 0.50                                  | ug/L           | 27-DEC-19              | 0.89       |   |   |
| Carbon tetrachloride                                   | <0.20          |                                      | 0.20                                  | ug/L           | 27-DEC-19              | 0.79       |   |   |
| Chlorobenzene                                          | <0.50          |                                      | 0.50                                  | ug/L           | 27-DEC-19              | 30         |   |   |
| Dibromochloromethane                                   | <2.0           |                                      | 2.0                                   | ug/L           | 27-DEC-19              | 25         |   |   |
| Chloroform                                             | <1.0           |                                      | 1.0                                   | ug/L           | 27-DEC-19              | 2.4        |   |   |
| 1,2-Dibromoethane                                      | <0.20          |                                      | 0.20                                  | ug/L           | 27-DEC-19              | 0.2        |   |   |
| 1,2-Dichlorobenzene                                    | <0.50          |                                      | 0.50                                  | ug/L           | 27-DEC-19              | 3          |   |   |
| 1,3-Dichlorobenzene                                    | <0.50          |                                      | 0.50                                  | ug/L           | 27-DEC-19              | 59         |   |   |
| 1,4-Dichlorobenzene                                    | <0.50          |                                      | 0.50                                  | ug/L           | 27-DEC-19              | 1          |   |   |
| Dichlorodifluoromethane                                | <2.0           |                                      | 2.0                                   | ug/L           | 27-DEC-19              | 590        |   |   |
| 1,1-Dichloroethane                                     | <0.50          |                                      | 0.50                                  | ug/L           | 27-DEC-19              | 5          |   |   |
| 1,2-Dichloroethane                                     | <0.50          |                                      | 0.50                                  | ug/L           | 27-DEC-19              | 1.6        |   |   |
| 1,1-Dichloroethylene                                   | <0.50          |                                      | 0.50                                  | ug/L           | 27-DEC-19              | 1.6        |   |   |
|                                                        | -5.00          | 1                                    | 1 5.55                                | _ ~g, <b>_</b> |                        |            | 1 | 1 |
| •                                                      |                |                                      | 0.50                                  | ua/L           | 27-DEC-19              | 1.6        |   |   |
| cis-1,2-Dichloroethylene<br>trans-1,2-Dichloroethylene | <0.50<br><0.50 |                                      | 0.50<br>0.50                          | ug/L<br>ug/L   | 27-DEC-19<br>27-DEC-19 | 1.6<br>1.6 |   |   |

<sup>\*\*</sup> 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:



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| CE751900                                                       |                |           |              |         |                        |            | 20-JAN-20 0      | 8:56 (MT) |
|----------------------------------------------------------------|----------------|-----------|--------------|---------|------------------------|------------|------------------|-----------|
| Sample Details Grouping Analyte                                | Result         | Qualifier | D.L.         | Units   | Analyzed               |            | Guideline Limits |           |
| L2399298-15 DUP1                                               |                |           |              |         |                        |            |                  |           |
| Sampled By: V.PETERS on 19-DEC-19                              |                |           |              |         |                        |            |                  |           |
| Matrix: WATER                                                  |                |           |              |         |                        | #1         |                  |           |
|                                                                |                |           |              |         |                        |            |                  |           |
| Volatile Organic Compounds                                     | 0.50           |           | 0.50         |         | 07 DEO 40              | _          |                  |           |
| 1,2-Dichloropropane                                            | <0.50          |           | 0.50         | ug/L    | 27-DEC-19              | 5          |                  |           |
| cis-1,3-Dichloropropene                                        | <0.30<br><0.30 |           | 0.30         | ug/L    | 27-DEC-19              |            |                  |           |
| trans-1,3-Dichloropropene 1,3-Dichloropropene (cis & trans)    | <0.30<br><0.50 |           | 0.30<br>0.50 | ug/L    | 27-DEC-19<br>27-DEC-19 | 0.5        |                  |           |
| Ethylbenzene                                                   | <0.50          |           | 0.50         | ug/L    | 27-DEC-19<br>27-DEC-19 | 0.5<br>2.4 |                  |           |
| n-Hexane                                                       | <0.50          |           | 0.50         | ug/L    | 27-DEC-19<br>27-DEC-19 | 2.4<br>51  |                  |           |
| Methyl Ethyl Ketone                                            | <0.50          |           | 20           | ug/L    | 27-DEC-19<br>27-DEC-19 | 1800       |                  |           |
|                                                                | <20            |           | 20           | ug/L    | 27-DEC-19<br>27-DEC-19 | 640        |                  |           |
| Methyl Isobutyl Ketone MTBE                                    | <2.0           |           | 2.0          | ug/L    | 27-DEC-19<br>27-DEC-19 |            |                  |           |
|                                                                | <0.50          |           | 0.50         | ug/L    | 27-DEC-19<br>27-DEC-19 | 15         |                  |           |
| Styrene                                                        | <0.50<br><0.50 |           | 0.50         | ug/L    | 27-DEC-19<br>27-DEC-19 | 5.4        |                  |           |
| 1,1,1,2-Tetrachloroethane                                      | <0.50<br><0.50 |           |              | ug/L    | 27-DEC-19<br>27-DEC-19 | 1.1        |                  |           |
| 1,1,2,2-Tetrachloroethane                                      |                |           | 0.50         | ug/L    |                        | 1          |                  |           |
| Tetrachloroethylene                                            | <0.50          |           | 0.50         | ug/L    | 27-DEC-19              | 1.6        |                  |           |
| Toluene                                                        | <0.50          |           | 0.50         | ug/L    | 27-DEC-19              | 24         |                  |           |
| 1,1,1-Trichloroethane                                          | <0.50          |           | 0.50         | ug/L    | 27-DEC-19              | 200        |                  |           |
| 1,1,2-Trichloroethane                                          | <0.50          |           | 0.50         | ug/L    | 27-DEC-19              | 4.7        |                  |           |
| Trichloroethylene                                              | <0.50          |           | 0.50         | ug/L    | 27-DEC-19              | 1.6        |                  |           |
| Trichlorofluoromethane                                         | <5.0           |           | 5.0          | ug/L    | 27-DEC-19              | 150        |                  |           |
| Vinyl chloride                                                 | <0.50          |           | 0.50         | ug/L    | 27-DEC-19              | 0.5        |                  |           |
| o-Xylene                                                       | <0.30          |           | 0.30         | ug/L    | 27-DEC-19              |            |                  |           |
| m+p-Xylenes                                                    | <0.40          |           | 0.40<br>0.50 | ug/L    | 27-DEC-19<br>27-DEC-19 | 000        |                  |           |
| Xylenes (Total)                                                | <0.50<br>88.8  |           | 70-130       | ug/L    | 27-DEC-19<br>27-DEC-19 | 300        |                  |           |
| Surrogate: 4-Bromofluorobenzene Surrogate: 1,4-Difluorobenzene | 91.1           |           | 70-130       | %<br>%  | 27-DEC-19<br>27-DEC-19 |            |                  |           |
| Hydrocarbons                                                   | 91.1           |           | 70-130       | /0      | 21-020-19              |            |                  |           |
| F1 (C6-C10)                                                    | <25            |           | 25           | ug/L    | 27-DEC-19              | 750        |                  |           |
| F1-BTEX                                                        | <25            |           | 25           | ug/L    | 30-DEC-19              | 750        |                  |           |
| F2 (C10-C16)                                                   | <100           |           | 100          | ug/L    | 24-DEC-19              | 150        |                  |           |
| F2-Naphth                                                      | <100           |           | 100          | ug/L    | 30-DEC-19              | 100        |                  |           |
| F3 (C16-C34)                                                   | <250           |           | 250          | ug/L    | 24-DEC-19              | 500        |                  |           |
| F3-PAH                                                         | <250           |           | 250          | ug/L    | 30-DEC-19              |            |                  |           |
| F4 (C34-C50)                                                   | <250           |           | 250          | ug/L    | 24-DEC-19              | 500        |                  |           |
| Total Hydrocarbons (C6-C50)                                    | <370           |           | 370          | ug/L    | 30-DEC-19              |            |                  |           |
| Chrom. to baseline at nC50                                     | YES            |           |              | No Unit | 24-DEC-19              |            |                  |           |
| Surrogate: 2-Bromobenzotrifluoride                             | 98.7           |           | 60-140       | %       | 24-DEC-19              |            |                  |           |
| Surrogate: 3,4-Dichlorotoluene                                 | 80.3           |           | 60-140       | %       | 27-DEC-19              |            |                  |           |
| Polycyclic Aromatic Hydrocarbons                               |                |           |              |         |                        |            |                  |           |
| Acenaphthene                                                   | <0.020         |           | 0.020        | ug/L    | 30-DEC-19              | 4.1        |                  |           |
| Acenaphthylene                                                 | <0.020         |           | 0.020        | ug/L    | 30-DEC-19              | 1          |                  |           |
| Anthracene                                                     | <0.020         |           | 0.020        | ug/L    | 30-DEC-19              | 2.4        |                  |           |
| Benzo(a)anthracene                                             | <0.020         |           | 0.020        | ug/L    | 30-DEC-19              | 1          |                  |           |
| Benzo(a)pyrene                                                 | <0.010         |           | 0.010        | ug/L    | 30-DEC-19              | 0.01       |                  |           |
| Benzo(b)fluoranthene                                           | <0.020         |           | 0.020        | ug/L    | 30-DEC-19              | 0.1        |                  |           |
| Benzo(g,h,i)perylene                                           | <0.020         |           | 0.020        | ug/L    | 30-DEC-19              | 0.2        |                  |           |
| Benzo(k)fluoranthene                                           | <0.020         |           | 0.020        | ug/L    | 30-DEC-19              | 0.1        |                  |           |
| Chrysene                                                       | <0.020         |           | 0.020        | ug/L    | 30-DEC-19              | 0.1        |                  |           |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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CE751900 20-JAN-20 08:56 (MT) Sample Details Result Qualifier D.L. Units Grouping Analyte Analyzed **Guideline Limits** L2399298-15 DUP1 Sampled By: V.PETERS on 19-DEC-19 #1 Matrix: WATER **Polycyclic Aromatic Hydrocarbons** Dibenzo(ah)anthracene < 0.020 0.020 ug/L 30-DEC-19 0.2 Fluoranthene < 0.020 0.020 ug/L 30-DEC-19 0.41 Fluorene < 0.020 0.020 ug/L 30-DEC-19 120 < 0.020 0.020 30-DEC-19 Indeno(1,2,3-cd)pyrene ug/L 0.2 1+2-Methylnaphthalenes < 0.028 0.028 ug/L 30-DEC-19 3.2 < 0.020 0.020 ug/L 30-DEC-19 1-Methylnaphthalene 3.2 30-DEC-19 2-Methylnaphthalene < 0.020 0.020 ug/L 3.2 Naphthalene < 0.050 0.050 ug/L 30-DEC-19 11 Phenanthrene < 0.020 0.020 ug/L 30-DEC-19 1 Pyrene <0.020 0.020 ug/L 30-DEC-19 4 1 60-140 30-DEC-19 Surrogate: d10-Acenaphthene 105.7 % Surrogate: d12-Chrysene 108.3 60-140 % 30-DEC-19 Surrogate: d8-Naphthalene 99.0 60-140 % 30-DEC-19 Surrogate: d10-Phenanthrene 104.1 60-140 % 30-DEC-19 L2399298-16 DUP2 Sampled By: V.PETERS on 19-DEC-19 #1 WATER Matrix: **Physical Tests** 0.0030 Conductivity 8.20 mS/cm 21-DEC-19 7.64 0.10 pH units 21-DEC-19 рΗ **Anions and Nutrients** Chloride (CI) 2920 **DLHC** 10 mg/L 27-DEC-19 \*790 Cyanides Cyanide, Weak Acid Diss <2.0 2.0 ug/L 20-DEC-19 66 **Dissolved Metals** Dissolved Mercury Filtration Location **FIELD** No Unit 23-DEC-19 Dissolved Metals Filtration Location **FIELD** No Unit 20-DEC-19 Barium (Ba)-Dissolved 215 DLHC 1.0 ug/L 20-DEC-19 1000 DLHC 20-DEC-19 Beryllium (Be)-Dissolved <1.0 1.0 ug/L 4 Boron (B)-Dissolved <100 DLHC 100 ug/L 20-DEC-19 5000 ug/L Cadmium (Cd)-Dissolved 0.504 DLHC 0.050 20-DEC-19 2.7 DLHC Chromium (Cr)-Dissolved < 5.0 5.0 ug/L 20-DEC-19 50 DLHC 20-DEC-19 Cobalt (Co)-Dissolved <1.0 1.0 ug/L 3.8 DLHC 3.3 2.0 ug/L 20-DEC-19 Copper (Cu)-Dissolved 87 Lead (Pb)-Dissolved < 0.50 DLHC 0.50 ug/L 20-DEC-19 10 < 0.0050 0.0050 ug/L 23-DEC-19 0.29 Mercury (Hg)-Dissolved Molybdenum (Mo)-Dissolved 2.69 DLHC 0.50 ug/L 20-DEC-19 70 Nickel (Ni)-Dissolved < 5.0 DLHC 5.0 ug/L 20-DEC-19 100 < 0.50 DLHC 0.50 20-DEC-19 Silver (Ag)-Dissolved ug/L 1.5 Thallium (TI)-Dissolved < 0.10 DLHC 0.10 ug/L 20-DEC-19 2

0.92

<5.0

17

DLHC

DLHC

DLHC

T2-Ground Water (Coarse Soil)-All Types of Property Use

0.10

5.0

10

ug/L

ug/L

ug/L

20-DEC-19

20-DEC-19

20-DEC-19

20

6.2

1100

Uranium (U)-Dissolved

Vanadium (V)-Dissolved

Zinc (Zn)-Dissolved

**Speciated Metals** 

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

Manalytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900 ANALTHCAL GOIDELINE REPORT Pag 20-JAN |        |           |        |       |           |      |                  |  |  |  |
|------------------------------------------------|--------|-----------|--------|-------|-----------|------|------------------|--|--|--|
| Sample Details Grouping Analyte                | Result | Qualifier | D.L.   | Units | Analyzad  |      |                  |  |  |  |
| Grouping Analyte                               | Result | Qualifier | D.L.   | Units | Analyzed  |      | Guideline Limits |  |  |  |
| L2399298-16 DUP2                               |        |           |        |       |           |      |                  |  |  |  |
| Sampled By: V.PETERS on 19-DEC-19              |        |           |        |       |           | #1   |                  |  |  |  |
| Matrix: WATER                                  |        |           |        |       |           | #1   |                  |  |  |  |
| Speciated Metals                               |        |           |        |       |           |      |                  |  |  |  |
| Chromium, Hexavalent                           | 2.01   |           | 0.50   | ug/L  | 23-DEC-19 | 25   |                  |  |  |  |
| Volatile Organic Compounds                     |        |           |        | Ü     |           |      |                  |  |  |  |
| Acetone                                        | <30    |           | 30     | ug/L  | 27-DEC-19 | 2700 |                  |  |  |  |
| Benzene                                        | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 5    |                  |  |  |  |
| Bromodichloromethane                           | <2.0   |           | 2.0    | ug/L  | 27-DEC-19 | 16   |                  |  |  |  |
| Bromoform                                      | <5.0   |           | 5.0    | ug/L  | 27-DEC-19 | 25   |                  |  |  |  |
| Bromomethane                                   | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 0.89 |                  |  |  |  |
| Carbon tetrachloride                           | <0.20  |           | 0.20   | ug/L  | 27-DEC-19 | 0.79 |                  |  |  |  |
| Chlorobenzene                                  | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 30   |                  |  |  |  |
| Dibromochloromethane                           | <2.0   |           | 2.0    | ug/L  | 27-DEC-19 | 25   |                  |  |  |  |
| Chloroform                                     | 5.7    |           | 1.0    | ug/L  | 27-DEC-19 | *2.4 |                  |  |  |  |
| 1,2-Dibromoethane                              | <0.20  |           | 0.20   | ug/L  | 27-DEC-19 | 0.2  |                  |  |  |  |
| 1,2-Dichlorobenzene                            | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 3    |                  |  |  |  |
| 1,3-Dichlorobenzene                            | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 59   |                  |  |  |  |
| 1,4-Dichlorobenzene                            | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1    |                  |  |  |  |
| Dichlorodifluoromethane                        | <2.0   |           | 2.0    | ug/L  | 27-DEC-19 | 590  |                  |  |  |  |
| 1,1-Dichloroethane                             | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 5    |                  |  |  |  |
| 1,2-Dichloroethane                             | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.6  |                  |  |  |  |
| 1,1-Dichloroethylene                           | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.6  |                  |  |  |  |
| cis-1,2-Dichloroethylene                       | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.6  |                  |  |  |  |
| trans-1,2-Dichloroethylene                     | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.6  |                  |  |  |  |
| Methylene Chloride                             | <5.0   |           | 5.0    | ug/L  | 27-DEC-19 | 50   |                  |  |  |  |
| 1,2-Dichloropropane                            | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 5    |                  |  |  |  |
| cis-1,3-Dichloropropene                        | <0.30  |           | 0.30   | ug/L  | 27-DEC-19 |      |                  |  |  |  |
| trans-1,3-Dichloropropene                      | <0.30  |           | 0.30   | ug/L  | 27-DEC-19 |      |                  |  |  |  |
| 1,3-Dichloropropene (cis & trans)              | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 0.5  |                  |  |  |  |
| Ethylbenzene                                   | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 2.4  |                  |  |  |  |
| n-Hexane                                       | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 51   |                  |  |  |  |
| Methyl Ethyl Ketone                            | <20    |           | 20     | ug/L  | 27-DEC-19 | 1800 |                  |  |  |  |
| Methyl Isobutyl Ketone                         | <20    |           | 20     | ug/L  | 27-DEC-19 | 640  |                  |  |  |  |
| MTBE                                           | <2.0   |           | 2.0    | ug/L  | 27-DEC-19 | 15   |                  |  |  |  |
| Styrene                                        | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 5.4  |                  |  |  |  |
| 1,1,1,2-Tetrachloroethane                      | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.1  |                  |  |  |  |
| 1,1,2,2-Tetrachloroethane                      | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1    |                  |  |  |  |
| Tetrachloroethylene                            | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.6  |                  |  |  |  |
| Toluene                                        | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 24   |                  |  |  |  |
| 1,1,1-Trichloroethane                          | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 200  |                  |  |  |  |
| 1,1,2-Trichloroethane                          | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 4.7  |                  |  |  |  |
| Trichloroethylene                              | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.6  |                  |  |  |  |
| Trichlorofluoromethane                         | <5.0   |           | 5.0    | ug/L  | 27-DEC-19 | 150  |                  |  |  |  |
| Vinyl chloride                                 | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 0.5  |                  |  |  |  |
| o-Xylene                                       | <0.30  |           | 0.30   | ug/L  | 27-DEC-19 |      |                  |  |  |  |
| m+p-Xylenes                                    | <0.40  |           | 0.40   | ug/L  | 27-DEC-19 |      |                  |  |  |  |
| Xylenes (Total)                                | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 300  |                  |  |  |  |
| Surrogate: 4-Bromofluorobenzene                | 89.1   |           | 70-130 | %     | 27-DEC-19 |      |                  |  |  |  |
| Surrogate: 1,4-Difluorobenzene                 | 91.1   |           | 70-130 | %     | 27-DEC-19 |      |                  |  |  |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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|-------------------------------------------------------------------------|---------------|-----------|--------|---------|------------------------|------|------------------|----------|--|--|
| Sample Details                                                          |               |           |        |         |                        |      | 20 07111 20      | 00.00 () |  |  |
| Grouping Analyte                                                        | Result        | Qualifier | D.L.   | Units   | Analyzed               |      | Guideline Limits |          |  |  |
| L2399298-16 DUP2                                                        |               |           |        |         |                        |      |                  |          |  |  |
| Sampled By: V.PETERS on 19-DEC-19                                       |               |           |        |         |                        |      |                  |          |  |  |
| Matrix: WATER                                                           |               |           |        |         |                        | #1   |                  |          |  |  |
|                                                                         |               |           |        |         |                        |      |                  |          |  |  |
| Hydrocarbons                                                            |               |           |        | _       |                        |      |                  |          |  |  |
| F1 (C6-C10)                                                             | <25           |           | 25     | ug/L    | 27-DEC-19              | 750  |                  |          |  |  |
| F1-BTEX                                                                 | <25           |           | 25     | ug/L    | 30-DEC-19              | 750  |                  |          |  |  |
| F2 (C10-C16)                                                            | <100          |           | 100    | ug/L    | 24-DEC-19              | 150  |                  |          |  |  |
| F2-Naphth                                                               | <100          |           | 100    | ug/L    | 30-DEC-19              |      |                  |          |  |  |
| F3 (C16-C34)                                                            | <250          |           | 250    | ug/L    | 24-DEC-19              | 500  |                  |          |  |  |
| F3-PAH                                                                  | <250          |           | 250    | ug/L    | 30-DEC-19              |      |                  |          |  |  |
| F4 (C34-C50)                                                            | <250          |           | 250    | ug/L    | 24-DEC-19              | 500  |                  |          |  |  |
| Total Hydrocarbons (C6-C50)                                             | <370          |           | 370    | ug/L    | 30-DEC-19              |      |                  |          |  |  |
| Chrom. to baseline at nC50                                              | YES           |           | 00.440 | No Unit | 24-DEC-19              |      |                  |          |  |  |
| Surrogate: 2-Bromobenzotrifluoride                                      | 101.6<br>75.0 |           | 60-140 | %<br>%  | 24-DEC-19<br>27-DEC-19 |      |                  |          |  |  |
| Surrogate: 3,4-Dichlorotoluene Polycyclic Aromatic Hydrocarbons         | 75.0          |           | 60-140 | 70      | 27-060-19              |      |                  |          |  |  |
|                                                                         | 0.000         |           | 0.000  | ,,      | 00 050 10              |      |                  |          |  |  |
| Acenaphthene                                                            | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 4.1  |                  |          |  |  |
| Acenaphthylene                                                          | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 1    |                  |          |  |  |
| Anthracene                                                              | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 2.4  |                  |          |  |  |
| Benzo(a)anthracene                                                      | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 1    |                  |          |  |  |
| Benzo(a)pyrene                                                          | <0.010        |           | 0.010  | ug/L    | 30-DEC-19              | 0.01 |                  |          |  |  |
| Benzo(b)fluoranthene                                                    | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 0.1  |                  |          |  |  |
| Benzo(g,h,i)perylene                                                    | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 0.2  |                  |          |  |  |
| Benzo(k)fluoranthene                                                    | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 0.1  |                  |          |  |  |
| Chrysene                                                                | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 0.1  |                  |          |  |  |
| Dibenzo(ah)anthracene                                                   | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 0.2  |                  |          |  |  |
| Fluoranthene                                                            | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 0.41 |                  |          |  |  |
| Fluorene                                                                | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 120  |                  |          |  |  |
| Indeno(1,2,3-cd)pyrene                                                  | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 0.2  |                  |          |  |  |
| 1+2-Methylnaphthalenes                                                  | <0.028        |           | 0.028  | ug/L    | 30-DEC-19              | 3.2  |                  |          |  |  |
| 1-Methylnaphthalene                                                     | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 3.2  |                  |          |  |  |
| 2-Methylnaphthalene                                                     | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 3.2  |                  |          |  |  |
| Naphthalene                                                             | <0.050        |           | 0.050  | ug/L    | 30-DEC-19              | 11   |                  |          |  |  |
| Phenanthrene                                                            | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 1    |                  |          |  |  |
| Pyrene                                                                  | <0.020        |           | 0.020  | ug/L    | 30-DEC-19              | 4.1  |                  |          |  |  |
| Surrogate: d10-Acenaphthene                                             | 105.8         |           | 60-140 | %       | 30-DEC-19              |      |                  |          |  |  |
| Surrogate: d12-Chrysene                                                 | 113.5         |           | 60-140 | %       | 30-DEC-19              |      |                  |          |  |  |
| Surrogate: d8-Naphthalene                                               | 95.4          |           | 60-140 | %<br>%  | 30-DEC-19              |      |                  |          |  |  |
| Surrogate: d10-Phenanthrene                                             | 105.6         |           | 60-140 | 70      | 30-DEC-19              |      |                  |          |  |  |
| L2399298-17 DUP3                                                        |               |           |        |         |                        |      |                  |          |  |  |
| Sampled By: V.PETERS on 20-DEC-19                                       |               |           |        |         |                        | 44   |                  |          |  |  |
| Matrix: WATER                                                           |               |           |        |         |                        | #1   |                  |          |  |  |
| Semi-Volatile Organics                                                  |               |           |        |         |                        |      |                  |          |  |  |
| Biphenyl                                                                | <0.40         |           | 0.40   | ug/L    | 30-DEC-19              | 0.5  |                  |          |  |  |
| 4-Chloroaniline                                                         | <0.40         |           | 0.40   | ug/L    | 30-DEC-19              | 10   |                  |          |  |  |
| Bis(2-chloroethyl)ether                                                 | <0.40         |           | 0.40   | ug/L    | 30-DEC-19              | 5    |                  |          |  |  |
| Bis(2-chloroisopropyl)ether                                             | <0.40         |           | 0.40   | ug/L    | 30-DEC-19              | 120  |                  |          |  |  |
| 3,3'-Dichlorobenzidine                                                  | <0.40         |           | 0.40   | ug/L    | 30-DEC-19              | 0.5  |                  |          |  |  |
| Diethylphthalate                                                        | <0.20         |           | 0.20   | ug/L    | 30-DEC-19              | 38   |                  |          |  |  |
| 1                                                                       |               | 1         |        |         |                        |      |                  |          |  |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900                                         | ANALTHICAL GOIDELINE REPORT Page 34 of 20-JAN-20 08:56 |           |             |              |                        |         |           |        |   |  |
|--------------------------------------------------|--------------------------------------------------------|-----------|-------------|--------------|------------------------|---------|-----------|--------|---|--|
| Sample Details                                   | Danile                                                 | 0         | D.1         | 11-26-       |                        |         |           |        | , |  |
| Grouping Analyte                                 | Result                                                 | Qualifier | D.L.        | Units        | Analyzed               |         | Guideline | Limits |   |  |
| L2399298-17 DUP3                                 |                                                        |           |             |              |                        |         |           |        |   |  |
| Sampled By: V.PETERS on 20-DEC-19                |                                                        |           |             |              |                        | 11.4    |           |        |   |  |
| Matrix: WATER                                    |                                                        |           |             |              |                        | #1      |           | 1      |   |  |
| Semi-Volatile Organics                           |                                                        |           |             |              |                        |         |           |        |   |  |
| Dimethylphthalate                                | <0.20                                                  |           | 0.20        | ug/L         | 30-DEC-19              | 38      |           |        |   |  |
| 2,4-Dimethylphenol                               | <0.50                                                  |           | 0.50        | ug/L         | 30-DEC-19              | 59      |           |        |   |  |
| 2,4-Dinitrophenol                                | <1.0                                                   |           | 1.0         | ug/L         | 30-DEC-19              | 10      |           |        |   |  |
| 2,4-Dinitrotoluene                               | <0.40                                                  |           | 0.40        | ug/L         | 30-DEC-19              |         |           |        |   |  |
| 2,6-Dinitrotoluene                               | <0.40                                                  |           | 0.40        | ug/L         | 30-DEC-19              |         |           |        |   |  |
| 2,4+2,6-Dinitrotoluene                           | <0.57                                                  |           | 0.57        | ug/L         | 30-DEC-19              | 5       |           |        |   |  |
| Bis(2-ethylhexyl)phthalate                       | <2.0                                                   |           | 2.0         | ug/L         | 30-DEC-19              | 10      |           |        |   |  |
| Phenol                                           | <0.50                                                  |           | 0.50        | ug/L         | 30-DEC-19              | 890     |           |        |   |  |
| 1,2,4-Trichlorobenzene                           | <0.40                                                  |           | 0.40        | ug/L         | 30-DEC-19              | 70      |           |        |   |  |
| Surrogate: 2-Fluorobiphenyl                      | 86.2                                                   |           | 50-140      | %            | 30-DEC-19              |         |           |        |   |  |
| Surrogate: Nitrobenzene d5                       | 86.7                                                   |           | 50-140      | %            | 30-DEC-19              |         |           |        |   |  |
| Surrogate: p-Terphenyl d14                       | 103.1                                                  |           | 60-140      | %            | 30-DEC-19              |         |           |        |   |  |
| Surrogate: 2,4,6-Tribromophenol                  | 97.1                                                   |           | 50-140      | %            | 30-DEC-19              |         |           |        |   |  |
| L2399298-18 TRIP BLANK                           |                                                        |           |             |              |                        |         |           |        |   |  |
| Sampled By: V.PETERS on 19-DEC-19                |                                                        |           |             |              |                        |         |           |        |   |  |
| Matrix: WATER                                    |                                                        |           |             |              |                        | #1      |           |        |   |  |
| ····a······                                      |                                                        |           |             |              |                        |         |           |        |   |  |
| Volatile Organic Compounds                       |                                                        |           |             |              |                        |         |           |        |   |  |
| Acetone                                          | <30                                                    |           | 30          | ug/L         | 27-DEC-19              | 2700    |           |        |   |  |
| Benzene                                          | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 5       |           |        |   |  |
| Bromodichloromethane                             | <2.0                                                   |           | 2.0         | ug/L         | 27-DEC-19              | 16      |           |        |   |  |
| Bromoform                                        | <5.0                                                   |           | 5.0         | ug/L         | 27-DEC-19              | 25      |           |        |   |  |
| Bromomethane                                     | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 0.89    |           |        |   |  |
| Carbon tetrachloride                             | <0.20                                                  |           | 0.20        | ug/L         | 27-DEC-19              | 0.79    |           |        |   |  |
| Chlorobenzene                                    | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 30      |           |        |   |  |
| Dibromochloromethane                             | <2.0                                                   |           | 2.0         | ug/L         | 27-DEC-19              | 25      |           |        |   |  |
| Chloroform                                       | <1.0                                                   |           | 1.0         | ug/L         | 27-DEC-19              | 2.4     |           |        |   |  |
| 1,2-Dibromoethane                                | <0.20                                                  |           | 0.20        | ug/L         | 27-DEC-19              | 0.2     |           |        |   |  |
| 1,2-Dichlorobenzene                              | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 3       |           |        |   |  |
| 1,3-Dichlorobenzene                              | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 59      |           |        |   |  |
| 1,4-Dichlorobenzene                              | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 1       |           |        |   |  |
| Dichlorodifluoromethane                          | <2.0                                                   |           | 2.0         | ug/L         | 27-DEC-19              | 590     |           |        |   |  |
| 1,1-Dichloroethane                               | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 5       |           |        |   |  |
| 1,2-Dichloroethane 1,1-Dichloroethylene          | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 1.6     |           |        |   |  |
| 1,1-Dichloroethylene                             | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 1.6     |           |        |   |  |
|                                                  | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 1.6     |           |        |   |  |
| trans-1,2-Dichloroethylene<br>Methylene Chloride | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 1.6     |           |        |   |  |
|                                                  | <5.0<br><0.50                                          |           | 5.0<br>0.50 | ug/L         | 27-DEC-19<br>27-DEC-19 | 50<br>5 |           |        |   |  |
| 1,2-Dichloropropane cis-1,3-Dichloropropene      | <0.50                                                  |           | 0.50        | ug/L<br>ug/L | 27-DEC-19<br>27-DEC-19 | 5       |           |        |   |  |
| trans-1,3-Dichloropropene                        | <0.30                                                  |           | 0.30        | ug/L<br>ug/L | 27-DEC-19<br>27-DEC-19 |         |           |        |   |  |
| 1,3-Dichloropropene (cis & trans)                | <0.50                                                  |           | 0.50        | ug/L<br>ug/L | 27-DEC-19<br>27-DEC-19 | 0.5     |           |        |   |  |
| Ethylbenzene                                     | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 2.4     |           |        |   |  |
| n-Hexane                                         | <0.50                                                  |           | 0.50        | ug/L         | 27-DEC-19              | 51      |           |        |   |  |
| Methyl Ethyl Ketone                              | <20                                                    |           | 20          | ug/L         | 27-DEC-19              | 1800    |           |        |   |  |
| Methyl Isobutyl Ketone                           | <20                                                    |           | 20          | ug/L         | 27-DEC-19              | 640     |           |        |   |  |
|                                                  | \20                                                    |           |             | ug/L         | 21 520-19              | 540     |           |        |   |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| ## ANALTHCAL GOIDELINE REPORT   Page 35 of 20-JAN-20 08:56   Sample Details |        |           |        |       |           |                  |   |  |  |  |  |
|-----------------------------------------------------------------------------|--------|-----------|--------|-------|-----------|------------------|---|--|--|--|--|
| Grouping Analyte                                                            | Result | Qualifier | D.L.   | Units | Analyzed  | Guideline Limits | S |  |  |  |  |
| 2399298-18 TRIP BLANK                                                       |        |           |        |       |           |                  |   |  |  |  |  |
| ampled By: V.PETERS on 19-DEC-19                                            |        |           |        |       |           |                  |   |  |  |  |  |
| latrix: WATER                                                               |        |           |        |       |           | #1               |   |  |  |  |  |
| olatile Organic Compounds                                                   |        |           |        |       |           |                  |   |  |  |  |  |
| MTBE                                                                        | <2.0   |           | 2.0    | ug/L  | 27-DEC-19 | 15               |   |  |  |  |  |
| Styrene                                                                     | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 5.4              |   |  |  |  |  |
| 1,1,1,2-Tetrachloroethane                                                   | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.1              |   |  |  |  |  |
| 1,1,2,2-Tetrachloroethane                                                   | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1                |   |  |  |  |  |
| Tetrachloroethylene                                                         | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.6              |   |  |  |  |  |
| Toluene                                                                     | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 24               |   |  |  |  |  |
| 1,1,1-Trichloroethane                                                       | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 200              |   |  |  |  |  |
| 1,1,2-Trichloroethane                                                       | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 4.7              |   |  |  |  |  |
| Trichloroethylene                                                           | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 1.6              |   |  |  |  |  |
| Trichlorofluoromethane                                                      | <5.0   |           | 5.0    | ug/L  | 27-DEC-19 | 150              |   |  |  |  |  |
| Vinyl chloride                                                              | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 0.5              |   |  |  |  |  |
| o-Xylene                                                                    | <0.30  |           | 0.30   | ug/L  | 27-DEC-19 |                  |   |  |  |  |  |
| m+p-Xylenes                                                                 | <0.40  |           | 0.40   | ug/L  | 27-DEC-19 |                  |   |  |  |  |  |
| Xylenes (Total)                                                             | <0.50  |           | 0.50   | ug/L  | 27-DEC-19 | 300              |   |  |  |  |  |
| Surrogate: 4-Bromofluorobenzene                                             | 88.3   |           | 70-130 | %     | 27-DEC-19 |                  |   |  |  |  |  |
| Surrogate: 1,4-Difluorobenzene                                              | 90.8   |           | 70-130 | %     | 27-DEC-19 |                  |   |  |  |  |  |
|                                                                             |        |           |        |       |           |                  |   |  |  |  |  |
|                                                                             |        |           |        |       |           |                  |   |  |  |  |  |

<sup>\*\*</sup> 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:

#### **Reference Information**

Sample Parameter Qualifier key listed:

| Qualifier | Description                                                                                         |
|-----------|-----------------------------------------------------------------------------------------------------|
| HTD       | Hold time exceeded for re-analysis or dilution, but initial testing was conducted within hold time. |
| DLHC      | Detection Limit Raised: Dilution required due to high concentration of test analyte(s).             |

Methods Listed (if applicable):

| ALS Test Code | Matrix | Test Description        | Method Reference*** |
|---------------|--------|-------------------------|---------------------|
| 625-511-WT    | Water  | ABN,CP,PAH-O.Reg 153/04 | SW846 8270 (511)    |

Ground water sample extraction is carried out at a pH <2 (acid extractables) and pH>11 (base neutral extractables). Extracts are dried, concentrated and exchanged into a solvent compatible with the cleanup. Analysis is by GC/MS. Depending on the analytical GC/MS column used benzo(i)fluoranthene may chromatographically co-elute with benzo(b)fluoranthene or benzo(k)fluoranthene.

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).

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).

CR-CR6-IC-R511-WT Water Hex Chrom-O.Reg 153/04 (July EPA 7199

2011)
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).

DINITROTOL-CALC-WT Water **ABN-Calculated Parameters** SW846 8270 EC-R511-WT Water Conductivity-O.Reg 153/04 (July APHA 2510 B

2011)
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).

**EC-SCREEN-WT** Water

Conductivity Screen (Internal **APHA 2510** 

Use Only)

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

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

**Parameters** 

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.

#### **Reference Information**

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), 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), 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 EPA 200.8

(ug/L)

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 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).

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

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), 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-

Water

Sum of Xylene Isomer

CALCULATION

T Concentrations

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:

17-723815

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:

#### **Reference Information**

| Laboratory Definition Code Laboratory Location |                                                 | Laboratory Definition Code | Laboratory Location |  |  |
|------------------------------------------------|-------------------------------------------------|----------------------------|---------------------|--|--|
| WT                                             | ALS ENVIRONMENTAL - WATERLOO<br>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.



Workorder: L2399298 Report Date: 20-JAN-20 Page 1 of 13

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Michael Shiry

| Test                      | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed      |
|---------------------------|--------|-----------|--------|-----------|-------|-----|--------|---------------|
| 625-511-WT                | Water  |           |        |           |       |     |        |               |
| Batch R4957588            |        |           |        |           |       |     |        |               |
| WG3248749-2 LCS           |        |           |        |           |       |     |        |               |
| 1,2,4-Trichlorobenzene    |        |           | 70.1   |           | %     |     | 50-140 | 30-DEC-19     |
| 2,4-Dimethylphenol        |        |           | 85.1   |           | %     |     | 30-130 | 30-DEC-19     |
| 2,4-Dinitrophenol         |        |           | 125.1  |           | %     |     | 50-140 | 30-DEC-19     |
| 2,4-Dinitrotoluene        |        |           | 116.1  |           | %     |     | 50-140 | 30-DEC-19     |
| 2,6-Dinitrotoluene        |        |           | 118.9  |           | %     |     | 50-140 | 30-DEC-19     |
| 3,3'-Dichlorobenzidine    |        |           | 58.9   |           | %     |     | 30-130 | 30-DEC-19     |
| 4-Chloroaniline           |        |           | 40.9   | ,         | %     |     | 30-130 | 30-DEC-19     |
| Biphenyl                  |        |           | 99.1   |           | %     |     | 50-140 | 30-DEC-19     |
| Bis(2-chloroethyl)ether   |        |           | 107.4  |           | %     |     | 50-140 | 30-DEC-19     |
| Bis(2-chloroisopropyl)etl | her    |           | 102.9  |           | %     |     | 50-140 | 30-DEC-19     |
| Bis(2-ethylhexyl)phthala  | te     |           | 120.1  |           | %     |     | 50-140 | 30-DEC-19     |
| Diethylphthalate          |        |           | 115.5  |           | %     |     | 50-140 | 30-DEC-19     |
| Dimethylphthalate         |        |           | 112.1  |           | %     |     | 50-140 | 30-DEC-19     |
| Phenol                    |        |           | 111.7  |           | %     |     | 30-130 | 30-DEC-19     |
| WG3248749-1 MB            |        |           |        |           |       |     |        |               |
| 1,2,4-Trichlorobenzene    |        | `         | <0.40  |           | ug/L  |     | 0.4    | 30-DEC-19     |
| 2,4-Dimethylphenol        |        |           | <0.50  |           | ug/L  |     | 0.5    | 30-DEC-19     |
| 2,4-Dinitrophenol         |        |           | <1.0   |           | ug/L  |     | 1      | 30-DEC-19     |
| 2,4-Dinitrotoluene        |        |           | <0.40  |           | ug/L  |     | 0.4    | 30-DEC-19     |
| 2,6-Dinitrotoluene        |        |           | <0.40  |           | ug/L  |     | 0.4    | 30-DEC-19     |
| 3,3'-Dichlorobenzidine    |        |           | <0.40  |           | ug/L  |     | 0.4    | 30-DEC-19     |
| 4-Chloroaniline           |        |           | <0.40  |           | ug/L  |     | 0.4    | 30-DEC-19     |
| Biphenyl                  |        |           | <0.40  |           | ug/L  |     | 0.4    | 30-DEC-19     |
| Bis(2-chloroethyl)ether   |        |           | < 0.40 |           | ug/L  |     | 0.4    | 30-DEC-19     |
| Bis(2-chloroisopropyl)etl | her    |           | < 0.40 |           | ug/L  |     | 0.4    | 30-DEC-19     |
| Bis(2-ethylhexyl)phthala  | te     |           | <2.0   |           | ug/L  |     | 2      | 30-DEC-19     |
| Diethylphthalate          |        |           | <0.20  |           | ug/L  |     | 0.2    | 30-DEC-19     |
| Dimethylphthalate         |        |           | <0.20  |           | ug/L  |     | 0.2    | 30-DEC-19     |
| Phenol                    |        |           | <0.50  |           | ug/L  |     | 0.5    | 30-DEC-19     |
| Surrogate: 2-Fluorobiphe  | enyl   |           | 82.7   |           | %     |     | 50-140 | 30-DEC-19     |
| Surrogate: 2,4,6-Tribron  | -      |           | 88.5   |           | %     |     | 50-140 | 30-DEC-19     |
| Surrogate: Nitrobenzene   | e d5   |           | 86.8   |           | %     |     | 50-140 | 30-DEC-19     |
| Surrogate: p-Terphenyl    |        |           | 103.6  |           | %     |     | 60-140 | 30-DEC-19     |
| - · · · ·                 | 141 4  |           |        |           |       |     |        | · · · · · · · |

CL-IC-N-WT Water



Workorder: L2399298 Report Date: 20-JAN-20 Page 2 of 13

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                                      | Matrix | Reference                | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|-----------------------------------------------------------|--------|--------------------------|---------|-----------|-------|-----|--------|-----------|
| CL-IC-N-WT                                                | Water  |                          |         |           |       |     |        | _         |
| Batch R4957584<br>WG3249775-3 DUP                         |        | L2399174-2               |         |           |       |     |        |           |
| Chloride (Cl)                                             |        | 110                      | 110     |           | mg/L  | 0.1 | 20     | 27-DEC-19 |
| <b>WG3249775-2 LCS</b> Chloride (CI)                      |        |                          | 103.2   |           | %     |     | 90-110 | 27-DEC-19 |
| <b>WG3249775-1 MB</b> Chloride (CI)                       |        |                          | <0.50   |           | mg/L  |     | 0.5    | 27-DEC-19 |
| <b>WG3249775-4 MS</b><br>Chloride (CI)                    |        | L2399174-2               | N/A     | MS-B      | %     |     | -      | 27-DEC-19 |
| CN-WAD-R511-WT                                            | Water  |                          |         |           |       |     |        |           |
| Batch R4952090                                            |        |                          |         |           |       |     |        |           |
| WG3247351-8 DUP<br>Cyanide, Weak Acid Dis                 | ss     | <b>L2399298-10</b> <2.0  | <2.0    | RPD-NA    | ug/L  | N/A | 20     | 20-DEC-19 |
| WG3247351-6 LCS<br>Cyanide, Weak Acid Dis                 | ss     |                          | 94.8    |           | %     |     | 80-120 | 20-DEC-19 |
| WG3247351-5 MB<br>Cyanide, Weak Acid Dis                  | ss     |                          | <2.0    |           | ug/L  |     | 2      | 20-DEC-19 |
| WG3247351-7 MS<br>Cyanide, Weak Acid Dis                  | ss     | L2399298-10              | 90.3    | •         | %     |     | 75-125 | 20-DEC-19 |
| CR-CR6-IC-R511-WT                                         | Water  |                          |         |           |       |     |        |           |
| Batch R4953948<br>WG3248687-4 DUP<br>Chromium, Hexavalent |        | <b>WG3248687-3</b> <0.50 | <0.50   | RPD-NA    | ug/L  | N/A | 20     | 23-DEC-19 |
| WG3248687-2 LCS<br>Chromium, Hexavalent                   |        |                          | 99.9    |           | %     |     | 80-120 | 23-DEC-19 |
| WG3248687-1 MB<br>Chromium, Hexavalent                    |        |                          | <0.50   |           | ug/L  |     | 0.5    | 23-DEC-19 |
| WG3248687-5 MS<br>Chromium, Hexavalent                    |        | WG3248687-3              | 100.8   |           | %     |     | 70-130 | 23-DEC-19 |
| EC-R511-WT                                                | Water  |                          |         |           |       |     |        |           |
| Batch R4952970                                            |        | W00047000 0              |         |           |       |     |        |           |
| WG3247929-4 DUP<br>Conductivity                           |        | <b>WG3247929-3</b> 0.663 | 0.662   |           | mS/cm | 0.2 | 10     | 21-DEC-19 |
| WG3247929-2 LCS<br>Conductivity                           |        |                          | 99.0    |           | %     |     | 90-110 | 21-DEC-19 |
| WG3247929-1 MB<br>Conductivity                            |        |                          | <0.0030 |           | mS/cm |     | 0.003  | 21-DEC-19 |



Qualifier

Workorder: L2399298 Report Date: 20-JAN-20 Page 3 of 13

RPD

Limit

Analyzed

Units

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Matrix

Reference

Result

Contact: Michael Shiry

Test

| EC DE44 WT                               |                       | Mator        |                             |         |        |       |     |        |           |
|------------------------------------------|-----------------------|--------------|-----------------------------|---------|--------|-------|-----|--------|-----------|
| EC-R511-WT                               | \F0000                | Water        |                             |         |        |       |     |        |           |
| Batch R49<br>WG3247931-4<br>Conductivity | 953069<br>DUP         |              | <b>WG3247931-3</b> 23.0     | 22.8    |        | mS/cm | 0.9 | 10     | 21-DEC-19 |
| WG3247931-2<br>Conductivity              | LCS                   |              |                             | 99.3    |        | %     |     | 90-110 | 21-DEC-19 |
| WG3247931-1<br>Conductivity              | MB                    |              |                             | <0.0030 |        | mS/cm |     | 0.003  | 21-DEC-19 |
| F1-HS-511-WT                             |                       | Water        |                             |         |        |       |     |        |           |
| Batch R49                                | 955031                |              |                             |         |        |       |     |        |           |
| <b>WG3249431-4</b><br>F1 (C6-C10)        | DUP                   |              | <b>WG3249431-3</b> <25      | <25     | RPD-NA | ug/L  | N/A | 30     | 27-DEC-19 |
| <b>WG3249431-1</b><br>F1 (C6-C10)        | LCS                   |              |                             | 92.2    |        | %     |     | 80-120 | 27-DEC-19 |
| <b>WG3249431-2</b><br>F1 (C6-C10)        | MB                    |              |                             | <25     |        | ug/L  |     | 25     | 27-DEC-19 |
| Surrogate: 3,4-D                         | ichloroto             | oluene       |                             | 87.6    |        | %     |     | 60-140 | 27-DEC-19 |
| <b>WG3249431-5</b><br>F1 (C6-C10)        | MS                    |              | WG3249431-3                 | 87.4    |        | %     |     | 60-140 | 27-DEC-19 |
| F2-F4-511-WT                             |                       | Water        |                             |         |        |       |     |        |           |
| Batch R49                                | 955251                |              |                             |         |        |       |     |        |           |
| <b>WG3248379-2</b><br>F2 (C10-C16)       | LCS                   |              |                             | 103.0   |        | %     |     | 70-130 | 24-DEC-19 |
| F3 (C16-C34)                             |                       |              |                             | 107.2   |        | %     |     | 70-130 | 24-DEC-19 |
| F4 (C34-C50)                             |                       |              |                             | 107.4   |        | %     |     | 70-130 | 24-DEC-19 |
| <b>WG3248379-1</b><br>F2 (C10-C16)       | MB                    |              |                             | <100    |        | ug/L  |     | 100    | 24-DEC-19 |
| F3 (C16-C34)                             |                       |              |                             | <250    |        | ug/L  |     | 250    | 24-DEC-19 |
| F4 (C34-C50)                             |                       |              |                             | <250    |        | ug/L  |     | 250    | 24-DEC-19 |
| Surrogate: 2-Bro                         | mobenz                | otrifluoride |                             | 94.2    |        | %     |     | 60-140 | 24-DEC-19 |
| HG-D-UG/L-CVAA-V                         | ΝT                    | Water        |                             |         |        |       |     |        |           |
| Batch R49                                | 952963                |              |                             |         |        |       |     |        |           |
| <b>WG3248554-4</b><br>Mercury (Hg)-Dis   | <b>DUP</b><br>ssolved |              | <b>WG3248554-3</b> < 0.0050 | <0.0050 | RPD-NA | ug/L  | N/A | 20     | 23-DEC-19 |
| <b>WG3248554-2</b><br>Mercury (Hg)-Dis   |                       |              |                             | 106.0   |        | %     |     | 80-120 | 23-DEC-19 |
| <b>WG3248554-1</b><br>Mercury (Hg)-Dis   | MB<br>ssolved         |              |                             | <0.0050 |        | ug/L  |     | 0.005  | 23-DEC-19 |
| WG3248554-6                              | MS                    |              | WG3248554-5                 |         |        |       |     |        |           |



Qualifier

Workorder: L2399298 Report Date: 20-JAN-20 Page 4 of 13

RPD

Limit

Analyzed

Units

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Matrix

Reference

Result

Contact: Michael Shiry

Test

| lest                                                       | IVIALITX | Reference                 | Resuit | Qualifier | Units | KFD | LIIIII           | Analyzeu               |
|------------------------------------------------------------|----------|---------------------------|--------|-----------|-------|-----|------------------|------------------------|
| HG-D-UG/L-CVAA-WT                                          | Water    |                           |        |           |       |     |                  |                        |
| Batch R4952963<br>WG3248554-6 MS<br>Mercury (Hg)-Dissolved |          | WG3248554-5               | 101.8  |           | %     |     | 70-130           | 23-DEC-19              |
| MET-D-UG/L-MS-WT                                           | Water    |                           |        |           |       |     |                  |                        |
| Batch R4952030                                             |          |                           |        |           |       |     |                  |                        |
| WG3247784-4 DUP<br>Barium (Ba)-Dissolved                   |          | <b>WG3247784-3</b><br>392 | 385    |           | ug/L  | 1.7 | 20               | 23-DEC-19              |
| Beryllium (Be)-Dissolved                                   | d        | <10                       | <10    | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Boron (B)-Dissolved                                        |          | <1000                     | <1000  | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Cadmium (Cd)-Dissolve                                      | ed       | 0.72                      | 0.63   |           | ug/L  | 13  | 20               | 23-DEC-19              |
| Chromium (Cr)-Dissolve                                     | ed       | <50                       | <50    | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Cobalt (Co)-Dissolved                                      |          | <10                       | <10    | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Copper (Cu)-Dissolved                                      |          | <20                       | <20    | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Lead (Pb)-Dissolved                                        |          | <5.0                      | <5.0   | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Molybdenum (Mo)-Disso                                      | olved    | <5.0                      | <5.0   | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Nickel (Ni)-Dissolved                                      |          | <50                       | <50    | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Silver (Ag)-Dissolved                                      |          | <5.0                      | <5.0   | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Thallium (TI)-Dissolved                                    |          | <1.0                      | <1.0   | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Uranium (U)-Dissolved                                      |          | <1.0                      | <1.0   | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Vanadium (V)-Dissolved                                     | d        | <50                       | <50    | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| Zinc (Zn)-Dissolved                                        |          | <100                      | <100   | RPD-NA    | ug/L  | N/A | 20               | 23-DEC-19              |
| WG3247784-2 LCS<br>Barium (Ba)-Dissolved                   |          |                           | 106.2  |           | %     |     | 00.400           | 00 850 40              |
| Beryllium (Be)-Dissolved                                   | ٨        |                           | 106.2  |           | %     |     | 80-120           | 20-DEC-19              |
| Boron (B)-Dissolved                                        | u        |                           | 104.9  |           | %     |     | 80-120           | 20-DEC-19              |
| Cadmium (Cd)-Dissolve                                      | nd       |                           | 100.9  |           | %     |     | 80-120<br>80-120 | 20-DEC-19              |
| Chromium (Cr)-Dissolve                                     |          |                           | 101.3  |           | %     |     | 80-120           | 20-DEC-19<br>20-DEC-19 |
| Cobalt (Co)-Dissolved                                      | ,u       |                           | 104.1  |           | %     |     | 80-120           | 20-DEC-19<br>20-DEC-19 |
| Copper (Cu)-Dissolved                                      |          |                           | 102.7  |           | %     |     | 80-120           | 20-DEC-19<br>20-DEC-19 |
| Lead (Pb)-Dissolved                                        |          |                           | 103.6  |           | %     |     | 80-120           | 20-DEC-19              |
| Molybdenum (Mo)-Disso                                      | olved    |                           | 105.4  |           | %     |     | 80-120           | 20-DEC-19              |
| Nickel (Ni)-Dissolved                                      |          |                           | 103.7  |           | %     |     | 80-120           | 20-DEC-19              |
| Silver (Ag)-Dissolved                                      |          |                           | 105.0  |           | %     |     | 80-120           | 20-DEC-19              |
| Thallium (TI)-Dissolved                                    |          |                           | 102.6  |           | %     |     | 80-120           | 20-DEC-19              |
| Uranium (U)-Dissolved                                      |          |                           | 100.9  |           | %     |     | 80-120           | 20-DEC-19              |
|                                                            |          |                           |        |           |       |     |                  |                        |



Workorder: L2399298 Report Date: 20-JAN-20 Page 5 of 13

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Michael Shiry

| Test                                      | Matrix | Reference   | Result       | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------------------------|--------|-------------|--------------|-----------|-------|-----|--------|-----------|
| MET-D-UG/L-MS-WT                          | Water  |             |              |           |       |     |        |           |
| Batch R4952030<br>WG3247784-2 LCS         |        |             |              |           | 24    |     |        |           |
| Vanadium (V)-Dissolved                    |        |             | 107.2        |           | %     |     | 80-120 | 20-DEC-19 |
| Zinc (Zn)-Dissolved                       |        |             | 102.1        |           | %     |     | 80-120 | 20-DEC-19 |
| WG3247784-1 MB<br>Barium (Ba)-Dissolved   |        |             | <0.10        |           | ug/L  |     | 0.1    | 20-DEC-19 |
| Beryllium (Be)-Dissolve                   | d      |             | <0.10        |           | ug/L  |     | 0.1    | 20-DEC-19 |
| Boron (B)-Dissolved                       |        |             | <10          |           | ug/L  |     | 10     | 20-DEC-19 |
| Cadmium (Cd)-Dissolve                     | ed     |             | <0.0050      |           | ug/L  |     | 0.005  | 20-DEC-19 |
| Chromium (Cr)-Dissolve                    | ed     |             | <0.50        |           | ug/L  |     | 0.5    | 20-DEC-19 |
| Cobalt (Co)-Dissolved                     |        |             | <0.10        |           | ug/L  |     | 0.1    | 20-DEC-19 |
| Copper (Cu)-Dissolved                     |        |             | <0.20        |           | ug/L  |     | 0.2    | 20-DEC-19 |
| Lead (Pb)-Dissolved                       |        |             | <0.050       |           | ug/L  |     | 0.05   | 20-DEC-19 |
| Molybdenum (Mo)-Disse                     | olved  |             | <0.050       |           | ug/L  |     | 0.05   | 20-DEC-19 |
| Nickel (Ni)-Dissolved                     |        |             | <0.50        |           | ug/L  |     | 0.5    | 20-DEC-19 |
| Silver (Ag)-Dissolved                     |        |             | <0.050       |           | ug/L  |     | 0.05   | 20-DEC-19 |
| Thallium (TI)-Dissolved                   |        |             | <0.010       |           | ug/L  |     | 0.01   | 20-DEC-19 |
| Uranium (U)-Dissolved                     |        |             | <0.010       |           | ug/L  |     | 0.01   | 20-DEC-19 |
| Vanadium (V)-Dissolved                    | d      |             | <0.50        |           | ug/L  |     | 0.5    | 20-DEC-19 |
| Zinc (Zn)-Dissolved                       |        |             | <1.0         |           | ug/L  |     | 1      | 20-DEC-19 |
| WG3247784-5 MS                            |        | WG3247784-6 | N1/A         | NO 5      | 0/    |     |        |           |
| Barium (Ba)-Dissolved                     | ـا     |             | N/A          | MS-B      | %     |     | -      | 20-DEC-19 |
| Beryllium (Be)-Dissolve                   |        |             | 98.1         |           | %     |     | 70-130 | 20-DEC-19 |
| Cadmium (Cd)-Dissolve                     |        |             | 91.2         |           | %     |     | 70-130 | 20-DEC-19 |
| Chromium (Cr)-Dissolve                    | eu     |             | 93.2         |           | %     |     | 70-130 | 20-DEC-19 |
| Cobalt (Co)-Dissolved                     |        |             | 94.0         |           | %     |     | 70-130 | 20-DEC-19 |
| Copper (Cu)-Dissolved Lead (Pb)-Dissolved |        |             | 75.5<br>91.2 |           | %     |     | 70-130 | 20-DEC-19 |
| ` '                                       | alvo d |             |              |           | %     |     | 70-130 | 20-DEC-19 |
| Molybdenum (Mo)-Disso                     | uiveu  |             | 83.1         |           | %     |     | 70-130 | 20-DEC-19 |
| Nickel (Ni)-Dissolved                     |        |             | 90.6         |           | %     |     | 70-130 | 20-DEC-19 |
| Silver (Ag)-Dissolved                     |        |             | 92.2         |           | %     |     | 70-130 | 20-DEC-19 |
| Thallium (TI)-Dissolved                   |        |             | 89.9<br>N/A  | MO 5      | %     |     | 70-130 | 20-DEC-19 |
| Uranium (U)-Dissolved                     |        |             | N/A          | MS-B      | %     |     | -      | 20-DEC-19 |
| Vanadium (V)-Dissolved                    | a .    |             | 98.7         |           | %     |     | 70-130 | 20-DEC-19 |
| Zinc (Zn)-Dissolved                       |        |             | 73.5         |           | %     |     | 70-130 | 20-DEC-19 |

PAH-511-WT Water



Workorder: L2399298 Report Date: 20-JAN-20 Page 6 of 13

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                   | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------|--------|-----------|--------|-----------|-------|-----|--------|-----------|
| PAH-511-WT             | Water  |           |        |           |       |     |        |           |
| Batch R4957468         |        |           |        |           |       |     |        |           |
| WG3248379-2 LCS        |        |           |        |           |       |     |        |           |
| 1-Methylnaphthalene    |        |           | 56.0   |           | %     |     | 50-140 | 30-DEC-19 |
| 2-Methylnaphthalene    |        |           | 52.1   |           | %     |     | 50-140 | 30-DEC-19 |
| Acenaphthene           |        |           | 60.0   |           | %     | •   | 50-140 | 30-DEC-19 |
| Acenaphthylene         |        |           | 61.6   |           | %     |     | 50-140 | 30-DEC-19 |
| Anthracene             |        |           | 60.5   |           | %     |     | 50-140 | 30-DEC-19 |
| Benzo(a)anthracene     |        |           | 68.7   |           | %     |     | 50-140 | 30-DEC-19 |
| Benzo(a)pyrene         |        |           | 58.4   |           | %     |     | 50-140 | 30-DEC-19 |
| Benzo(b)fluoranthene   |        |           | 55.0   |           | %     |     | 50-140 | 30-DEC-19 |
| Benzo(g,h,i)perylene   |        |           | 63.0   |           | %     |     | 50-140 | 30-DEC-19 |
| Benzo(k)fluoranthene   |        |           | 62.1   |           | %     |     | 50-140 | 30-DEC-19 |
| Chrysene               |        |           | 70.4   |           | %     |     | 50-140 | 30-DEC-19 |
| Dibenzo(ah)anthracene  |        |           | 59.3   |           | %     |     | 50-140 | 30-DEC-19 |
| Fluoranthene           |        |           | 61.8   |           | %     |     | 50-140 | 30-DEC-19 |
| Fluorene               |        |           | 61.7   |           | %     |     | 50-140 | 30-DEC-19 |
| Indeno(1,2,3-cd)pyrene |        |           | 66.4   | *         | %     |     | 50-140 | 30-DEC-19 |
| Naphthalene            |        | · ·       | 55.6   |           | %     |     | 50-140 | 30-DEC-19 |
| Phenanthrene           |        |           | 62.4   |           | %     |     | 50-140 | 30-DEC-19 |
| Pyrene                 |        |           | 63.3   |           | %     |     | 50-140 | 30-DEC-19 |
| WG3248379-1 MB         |        |           |        |           |       |     |        |           |
| 1-Methylnaphthalene    |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| 2-Methylnaphthalene    |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Acenaphthene           |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Acenaphthylene         |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Anthracene             |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Benzo(a)anthracene     |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Benzo(a)pyrene         |        |           | <0.010 |           | ug/L  |     | 0.01   | 30-DEC-19 |
| Benzo(b)fluoranthene   |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Benzo(g,h,i)perylene   |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Benzo(k)fluoranthene   |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Chrysene               |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Dibenzo(ah)anthracene  |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Fluoranthene           |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Fluorene               |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| Indeno(1,2,3-cd)pyrene |        |           | <0.020 |           | ug/L  |     | 0.02   | 30-DEC-19 |
| 1                      |        |           |        |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                             | Matrix | Reference   | Result | Qualifier | Units       | RPD   | Limit   | Analyzed  |
|----------------------------------|--------|-------------|--------|-----------|-------------|-------|---------|-----------|
| PAH-511-WT                       | Water  |             |        |           |             |       |         |           |
| Batch R4957468<br>WG3248379-1 MB |        |             |        |           |             |       |         |           |
| Naphthalene                      |        |             | <0.050 |           | ug/L        |       | 0.05    | 30-DEC-19 |
| Phenanthrene                     |        |             | <0.020 |           | ug/L        |       | 0.02    | 30-DEC-19 |
| Pyrene                           |        |             | <0.020 |           | ug/L        |       | 0.02    | 30-DEC-19 |
| Surrogate: d8-Naphthal           | ene    |             | 100.2  |           | %           |       | 60-140  | 30-DEC-19 |
| Surrogate: d10-Phenan            | threne |             | 109.1  |           | %           |       | 60-140  | 30-DEC-19 |
| Surrogate: d12-Chryser           | ne     |             | 114.1  |           | %           |       | 60-140  | 30-DEC-19 |
| Surrogate: d10-Acenapl           | hthene |             | 105.7  |           | %           |       | 60-140  | 30-DEC-19 |
| PH-WT                            | Water  |             |        |           |             |       |         |           |
| Batch R4952970                   |        |             |        |           |             |       |         |           |
| WG3247929-4 DUP                  |        | WG3247929-3 |        |           | 211         |       |         |           |
| рН                               |        | 8.04        | 7.99   |           | pH units    | 0.05  | 0.2     | 21-DEC-19 |
| <b>WG3247929-2 LCS</b><br>pH     |        |             | 7.02   |           | pH units    |       | 6.9-7.1 | 21-DEC-19 |
| Batch R4953331                   |        |             |        |           |             |       |         |           |
| WG3248895-4 DUP                  |        | WG3248895-3 |        |           | m I I       |       |         |           |
| pH                               |        | 7.82        | 7.87   | J         | pH units    | 0.05  | 0.2     | 23-DEC-19 |
| <b>WG3248895-2 LCS</b><br>pH     |        |             | 7.03   |           | pH units    |       | 6.9-7.1 | 23-DEC-19 |
| Batch R4953333                   |        |             |        |           |             |       |         |           |
| WG3248934-4 DUP                  |        | WG3248934-3 |        |           |             |       |         |           |
| рН                               |        | 7.47        | 7.47   | J         | pH units    | 0.00  | 0.2     | 23-DEC-19 |
| <b>WG3248934-2 LCS</b><br>pH     |        |             | 7.03   |           | pH units    |       | 6.9-7.1 | 23-DEC-19 |
| -                                | Motor  |             | 7.00   |           | pr. a.mo    |       | 0.5-7.1 | 20 020 10 |
| VOC-511-HS-WT  Batch R4955031    | Water  |             |        |           |             |       |         |           |
| WG3249431-4 DUP                  |        | WG3249431-3 |        |           |             |       |         |           |
| 1,1,1,2-Tetrachloroetha          | ne     | <0.50       | <0.50  | RPD-NA    | ug/L        | N/A   | 30      | 27-DEC-19 |
| 1,1,2,2-Tetrachloroetha          | ne     | <0.50       | <0.50  | RPD-NA    | ug/L        | N/A   | 30      | 27-DEC-19 |
| 1,1,1-Trichloroethane            |        | <0.50       | <0.50  | RPD-NA    | ug/L        | N/A   | 30      | 27-DEC-19 |
| 1,1,2-Trichloroethane            |        | <0.50       | <0.50  | RPD-NA    | ug/L        | N/A   | 30      | 27-DEC-19 |
| 1,1-Dichloroethane               |        | <0.50       | <0.50  | RPD-NA    | ug/L        | N/A   | 30      | 27-DEC-19 |
| 1,1-Dichloroethylene             |        | <0.50       | <0.50  | RPD-NA    | ug/L        | N/A   | 30      | 27-DEC-19 |
| 1,2-Dibromoethane                |        | <0.20       | <0.20  | RPD-NA    | ug/L        | N/A   | 30      | 27-DEC-19 |
| 1,2-Dichlorobenzene              |        | <0.50       | <0.50  | RPD-NA    | ug/L        | N/A   | 30      | 27-DEC-19 |
| 1,2-Dichloroethane               |        | <0.50       | <0.50  | IN D IVA  | g, <b>-</b> | 14//1 | 30      | 21-000-19 |
| 1,2 Distribution                 |        | 30.00       | 10.00  |           |             |       |         |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Michael Shiry

| est                                   | Matrix | Reference                | Result         | Qualifier        | Units        | RPD  | Limit | Analyzed  |
|---------------------------------------|--------|--------------------------|----------------|------------------|--------------|------|-------|-----------|
| VOC-511-HS-WT                         | Water  |                          |                |                  |              |      |       |           |
| Batch R4955031                        |        |                          |                |                  |              |      |       |           |
| WG3249431-4 DUP<br>1,2-Dichloroethane |        | <b>WG3249431-3</b> <0.50 | <b>3</b> <0.50 | DDD NA           | ug/l         | NI/A | 20    | 07 DEC 40 |
| 1,2-Dichloropropane                   |        | <0.50                    | <0.50          | RPD-NA<br>RPD-NA | ug/L<br>ug/L | N/A  | 30    | 27-DEC-19 |
| 1,3-Dichlorobenzene                   |        | <0.50                    | <0.50          |                  | ug/L         | N/A  | 30    | 27-DEC-19 |
| 1,4-Dichlorobenzene                   |        | <0.50                    | <0.50          | RPD-NA           | ug/L<br>ug/L | N/A  | 30    | 27-DEC-19 |
| Acetone                               |        | <30                      | <30            | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Benzene                               |        | <0.50                    | <0.50          | RPD-NA<br>RPD-NA |              | N/A  | 30    | 27-DEC-19 |
| Bromodichloromethane                  |        | <2.0                     | <2.0           |                  | ug/L<br>ug/L | N/A  | 30    | 27-DEC-19 |
| Bromoform                             |        | <2.0<br><5.0             |                | RPD-NA           |              | N/A  | 30    | 27-DEC-19 |
|                                       |        | <0.50                    | <5.0           | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Bromomethane                          |        |                          | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Carbon tetrachloride Chlorobenzene    |        | <0.20<br><0.50           | <0.20          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Chlorobenzene                         |        |                          | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
|                                       |        | 7.8                      | 7.6            |                  | ug/L         | 2.2  | 30    | 27-DEC-19 |
| cis-1,2-Dichloroethylene              |        | <0.50                    | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| cis-1,3-Dichloropropene               |        | <0.30                    | <0.30          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Dibromochloromethane                  |        | <2.0                     | <2.0           | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Dichlorodifluoromethane               |        | <2.0                     | <2.0           | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Ethylbenzene                          |        | <0.50                    | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| n-Hexane                              |        | <0.50                    | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| m+p-Xylenes                           |        | <0.40                    | <0.40          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Methyl Ethyl Ketone                   |        | <20                      | <20            | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Methyl Isobutyl Ketone                |        | <20                      | <20            | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Methylene Chloride                    |        | <5.0                     | <5.0           | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| MTBE                                  |        | <2.0                     | <2.0           | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| o-Xylene                              |        | <0.30                    | <0.30          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Styrene                               |        | <0.50                    | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Tetrachloroethylene                   |        | <0.50                    | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Toluene                               |        | <0.50                    | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| trans-1,2-Dichloroethyle              |        | <0.50                    | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| trans-1,3-Dichloroproper              | ne     | <0.30                    | <0.30          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Trichloroethylene                     |        | <0.50                    | <0.50          | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Trichlorofluoromethane                |        | <5.0                     | <5.0           | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |
| Vinyl chloride                        |        | <0.50                    | < 0.50         | RPD-NA           | ug/L         | N/A  | 30    | 27-DEC-19 |

WG3249431-1 LCS



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                   | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------|--------|-----------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT          | Water  |           |        |           |       |     |        |           |
| Batch R49550           | 31     |           |        |           |       |     |        |           |
| WG3249431-1 LCS        |        |           |        |           |       |     |        |           |
| 1,1,1,2-Tetrachloroet  |        |           | 85.9   |           | %     |     | 70-130 | 27-DEC-19 |
| 1,1,2,2-Tetrachloroet  |        |           | 81.1   |           | %     |     | 70-130 | 27-DEC-19 |
| 1,1,1-Trichloroethane  |        |           | 90.1   |           | %     | •   | 70-130 | 27-DEC-19 |
| 1,1,2-Trichloroethane  | 9      |           | 83.4   |           | %     |     | 70-130 | 27-DEC-19 |
| 1,1-Dichloroethane     |        |           | 89.9   |           | %     |     | 70-130 | 27-DEC-19 |
| 1,1-Dichloroethylene   |        |           | 88.8   |           | %     |     | 70-130 | 27-DEC-19 |
| 1,2-Dibromoethane      |        |           | 80.4   | 1         | %     |     | 70-130 | 27-DEC-19 |
| 1,2-Dichlorobenzene    |        |           | 87.0   |           | %     |     | 70-130 | 27-DEC-19 |
| 1,2-Dichloroethane     |        |           | 84.2   |           | %     |     | 70-130 | 27-DEC-19 |
| 1,2-Dichloropropane    |        |           | 89.0   |           | %     |     | 70-130 | 27-DEC-19 |
| 1,3-Dichlorobenzene    |        |           | 88.1   |           | %     |     | 70-130 | 27-DEC-19 |
| 1,4-Dichlorobenzene    |        |           | 87.5   |           | %     |     | 70-130 | 27-DEC-19 |
| Acetone                |        |           | 86.5   |           | %     |     | 60-140 | 27-DEC-19 |
| Benzene                |        |           | 92.7   |           | %     |     | 70-130 | 27-DEC-19 |
| Bromodichlorometha     | ne     |           | 86.3   | •         | %     |     | 70-130 | 27-DEC-19 |
| Bromoform              |        |           | 80.7   |           | %     |     | 70-130 | 27-DEC-19 |
| Bromomethane           |        |           | 82.5   |           | %     |     | 60-140 | 27-DEC-19 |
| Carbon tetrachloride   |        |           | 90.9   |           | %     |     | 70-130 | 27-DEC-19 |
| Chlorobenzene          |        |           | 87.1   |           | %     |     | 70-130 | 27-DEC-19 |
| Chloroform             |        |           | 90.0   |           | %     |     | 70-130 | 27-DEC-19 |
| cis-1,2-Dichloroethyle | ene    |           | 85.2   |           | %     |     | 70-130 | 27-DEC-19 |
| cis-1,3-Dichloroprope  | ene    |           | 82.0   |           | %     |     | 70-130 | 27-DEC-19 |
| Dibromochlorometha     | ne     |           | 82.6   |           | %     |     | 70-130 | 27-DEC-19 |
| Dichlorodifluorometha  | ane    |           | 101.9  |           | %     |     | 50-140 | 27-DEC-19 |
| Ethylbenzene           |        |           | 84.4   |           | %     |     | 70-130 | 27-DEC-19 |
| n-Hexane               |        |           | 88.4   |           | %     |     | 70-130 | 27-DEC-19 |
| m+p-Xylenes            |        |           | 86.5   |           | %     |     | 70-130 | 27-DEC-19 |
| Methyl Ethyl Ketone    |        |           | 78.8   |           | %     |     | 60-140 | 27-DEC-19 |
| Methyl Isobutyl Keton  | ne     |           | 69.6   |           | %     |     | 60-140 | 27-DEC-19 |
| Methylene Chloride     |        |           | 87.4   |           | %     |     | 70-130 | 27-DEC-19 |
| MTBE                   |        |           | 86.4   |           | %     |     | 70-130 | 27-DEC-19 |
| o-Xylene               |        |           | 82.3   |           | %     |     | 70-130 | 27-DEC-19 |
| Styrene                |        |           | 80.3   |           | %     |     | 70-130 | 27-DEC-19 |
|                        |        |           |        |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed               |
|-------------------------------------|--------|-----------|--------|-----------|-------|-----|--------|------------------------|
| VOC-511-HS-WT                       | Water  |           |        |           |       |     |        |                        |
| Batch R4955031                      |        |           |        |           |       |     |        |                        |
| WG3249431-1 LCS Tetrachloroethylene |        |           | 88.1   |           | %     |     | 70-130 | 27-DEC-19              |
| Toluene                             |        |           | 87.3   |           | %     |     | 70-130 | 27-DEC-19<br>27-DEC-19 |
| trans-1,2-Dichloroethyle            | ene    |           | 87.0   |           | %     |     | 70-130 | 27-DEC-19              |
| trans-1,3-Dichloroprope             |        |           | 78.7   |           | %     |     | 70-130 | 27-DEC-19              |
| Trichloroethylene                   |        |           | 87.9   |           | %     |     | 70-130 | 27-DEC-19              |
| Trichlorofluoromethane              |        |           | 92.3   |           | %     |     | 60-140 | 27-DEC-19<br>27-DEC-19 |
| Vinyl chloride                      |        |           | 104.9  |           | %     |     | 60-140 | 27-DEC-19<br>27-DEC-19 |
| WG3249431-2 MB                      |        |           | 101.0  |           |       | •   | 00-140 | 27-020-19              |
| 1,1,1,2-Tetrachloroetha             | ne     |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,1,2,2-Tetrachloroetha             | ne     |           | < 0.50 |           | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,1,1-Trichloroethane               |        |           | <0.50  | AV        | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,1,2-Trichloroethane               |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,1-Dichloroethane                  |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,1-Dichloroethylene                |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,2-Dibromoethane                   |        |           | <0.20  |           | ug/L  |     | 0.2    | 27-DEC-19              |
| 1,2-Dichlorobenzene                 |        | `         | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,2-Dichloroethane                  |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,2-Dichloropropane                 |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,3-Dichlorobenzene                 |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| 1,4-Dichlorobenzene                 |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| Acetone                             |        |           | <30    |           | ug/L  |     | 30     | 27-DEC-19              |
| Benzene                             |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| Bromodichloromethane                |        |           | <2.0   |           | ug/L  |     | 2      | 27-DEC-19              |
| Bromoform                           |        |           | <5.0   |           | ug/L  |     | 5      | 27-DEC-19              |
| Bromomethane                        |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| Carbon tetrachloride                |        |           | <0.20  |           | ug/L  |     | 0.2    | 27-DEC-19              |
| Chlorobenzene                       |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| Chloroform                          |        |           | <1.0   |           | ug/L  |     | 1      | 27-DEC-19              |
| cis-1,2-Dichloroethylene            | )      |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| cis-1,3-Dichloropropene             | •      |           | <0.30  |           | ug/L  |     | 0.3    | 27-DEC-19              |
| Dibromochloromethane                |        |           | <2.0   |           | ug/L  |     | 2      | 27-DEC-19              |
| Dichlorodifluoromethane             | е      |           | <2.0   |           | ug/L  |     | 2      | 27-DEC-19              |
| Ethylbenzene                        |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
| n-Hexane                            |        |           | <0.50  |           | ug/L  |     | 0.5    | 27-DEC-19              |
|                                     |        |           |        |           |       |     |        |                        |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                      | Matrix    | Reference   | Result      | Qualifier | Units          | RPD | Limit  | Analyzed  |
|-------------------------------------------|-----------|-------------|-------------|-----------|----------------|-----|--------|-----------|
| VOC-511-HS-WT                             | Water     |             |             |           |                |     |        |           |
| Batch R4955031                            |           |             |             |           |                |     |        |           |
| WG3249431-2 MB<br>m+p-Xylenes             |           |             | <0.40       |           | ua/I           |     | 0.4    | 07.050.40 |
| Methyl Ethyl Ketone                       |           |             | <0.40       |           | ug/L<br>ug/L   |     | 20     | 27-DEC-19 |
|                                           |           |             | <20         |           |                |     | 20     | 27-DEC-19 |
| Methylana Chlorida                        |           |             | <20<br><5.0 |           | ug/L           |     |        | 27-DEC-19 |
| Methylene Chloride<br>MTBE                |           |             |             |           | ug/L           |     | 5      | 27-DEC-19 |
|                                           |           |             | <2.0        |           | ug/L           |     | 2      | 27-DEC-19 |
| o-Xylene                                  |           |             | <0.30       |           | ug/L           |     | 0.3    | 27-DEC-19 |
| Styrene                                   |           |             | <0.50       |           | ug/L           |     | 0.5    | 27-DEC-19 |
| Tetrachloroethylene                       |           |             | <0.50       |           | ug/L           |     | 0.5    | 27-DEC-19 |
| Toluene                                   |           |             | <0.50       |           | ug/L           |     | 0.5    | 27-DEC-19 |
| trans-1,2-Dichloroethyle                  |           |             | <0.50       |           | ug/L           |     | 0.5    | 27-DEC-19 |
| trans-1,3-Dichloroprope                   | ene       |             | <0.30       |           | ug/L           |     | 0.3    | 27-DEC-19 |
| Trichloroethylene                         |           |             | <0.50       |           | ug/L           |     | 0.5    | 27-DEC-19 |
| Trichlorofluoromethane                    |           |             | <5.0        |           | ug/L           |     | 5      | 27-DEC-19 |
| Vinyl chloride                            |           |             | <0.50       |           | ug/L           |     | 0.5    | 27-DEC-19 |
| Surrogate: 1,4-Difluorol                  |           |             | 91.5        |           | %              |     | 70-130 | 27-DEC-19 |
| Surrogate: 4-Bromofluo                    | robenzene | `           | 89.7        |           | %              |     | 70-130 | 27-DEC-19 |
| WG3249431-5 MS<br>1,1,1,2-Tetrachloroetha | ine       | WG3249431-3 | 87.2        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,1,2,2-Tetrachloroetha                   | ine       |             | 81.8        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,1,1-Trichloroethane                     |           |             | 90.3        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,1,2-Trichloroethane                     |           |             | 83.3        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,1-Dichloroethane                        |           |             | 93.6        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,1-Dichloroethylene                      |           |             | 83.8        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,2-Dibromoethane                         |           |             | 79.7        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,2-Dichlorobenzene                       |           |             | 87.4        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,2-Dichloroethane                        |           |             | 83.7        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,2-Dichloropropane                       |           |             | 90.0        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,3-Dichlorobenzene                       |           |             | 87.7        |           | %              |     | 50-140 | 27-DEC-19 |
| 1,4-Dichlorobenzene                       |           |             | 86.8        |           | %              |     | 50-140 | 27-DEC-19 |
| Acetone                                   |           |             | 85.9        |           | %              |     | 50-140 | 27-DEC-19 |
| Benzene                                   |           |             | 92.5        |           | %              |     | 50-140 | 27-DEC-19 |
| Bromodichloromethane                      | <b>!</b>  |             | 88.0        |           | %              |     | 50-140 | 27-DEC-19 |
| Bromoform                                 |           |             | 80.4        |           | %              |     | 50-140 | 27-DEC-19 |
| Bromomethane                              |           |             | 72.7        |           | %              |     | 50-140 | 27-DEC-19 |
|                                           |           |             |             |           | , <del>.</del> |     | 00 170 | 21 020-10 |



Workorder: L2399298 Report Date: 20-JAN-20 Page 12 of 13

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit   | Analyzed  |
|-------------------------------------|--------|-------------|--------|-----------|-------|-----|---------|-----------|
| VOC-511-HS-WT                       | Water  |             |        |           |       |     |         |           |
| Batch R4955031                      |        |             |        |           |       |     |         |           |
| WG3249431-5 MS Carbon tetrachloride |        | WG3249431-3 |        |           | %     |     | 50.440  | 07 DEO 40 |
|                                     |        |             | 90.1   |           |       |     | 50-140  | 27-DEC-19 |
| Chlorobenzene                       |        |             | 87.1   |           | %     |     | 50-140  | 27-DEC-19 |
| Chloroform                          |        |             | 90.7   |           | %     |     | 50-140  | 27-DEC-19 |
| cis-1,2-Dichloroethylene            |        |             | 82.9   |           | %     |     | 50-140  | 27-DEC-19 |
| cis-1,3-Dichloropropene             |        |             | 78.2   |           | %     |     | 50-140  | 27-DEC-19 |
| Dibromochloromethane                |        |             | 82.4   |           | %     |     | 50-140  | 27-DEC-19 |
| Dichlorodifluoromethane             | •      |             | 77.3   |           | %     |     | 50-140  | 27-DEC-19 |
| Ethylbenzene                        |        |             | 84.0   |           | %     |     | 50-140  | 27-DEC-19 |
| n-Hexane                            |        |             | 81.9   |           | %     |     | 50-140  | 27-DEC-19 |
| m+p-Xylenes                         |        |             | 86.6   |           | %     |     | 50-140  | 27-DEC-19 |
| Methyl Ethyl Ketone                 |        |             | 72.2   |           | %     |     | 50-140  | 27-DEC-19 |
| Methyl Isobutyl Ketone              |        |             | 69.1   |           | %     |     | 50-140  | 27-DEC-19 |
| Methylene Chloride                  |        |             | 86.7   |           | %     |     | 50-140  | 27-DEC-19 |
| MTBE                                |        |             | 87.5   |           | %     |     | 50-140  | 27-DEC-19 |
| o-Xylene                            |        |             | 82.3   | •         | %     |     | 50-140  | 27-DEC-19 |
| Styrene                             |        |             | 79.7   |           | %     |     | 50-140  | 27-DEC-19 |
| Tetrachloroethylene                 |        |             | 86.8   |           | %     |     | 50-140  | 27-DEC-19 |
| Toluene                             |        |             | 86.5   |           | %     |     | 50-140  | 27-DEC-19 |
| trans-1,2-Dichloroethyler           | ne     |             | 83.3   |           | %     |     | 50-140  | 27-DEC-19 |
| trans-1,3-Dichloroproper            | ne     |             | 73.4   |           | %     |     | 50-140  | 27-DEC-19 |
| Trichloroethylene                   |        |             | 87.4   |           | %     |     | 50-140  | 27-DEC-19 |
| Trichlorofluoromethane              |        |             | 85.0   |           | %     |     | 50-140  | 27-DEC-19 |
| Vinyl chloride                      |        |             | 89.7   |           | %     |     | 50-140  | 27-DEC-19 |
|                                     |        |             |        |           |       |     | 00 1 10 | 0         |

Workorder: L2399298 Report Date: 20-JAN-20

Client: CH2M HILL CANADA LIMITED Page 13 of 13

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Michael Shiry

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.        |

#### **Hold Time Exceedances:**

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

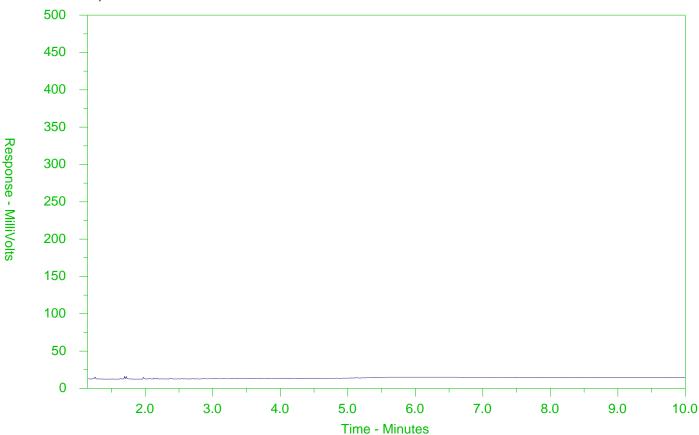
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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



ALS Sample ID: L2399298-1 Client Sample ID: MW100



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

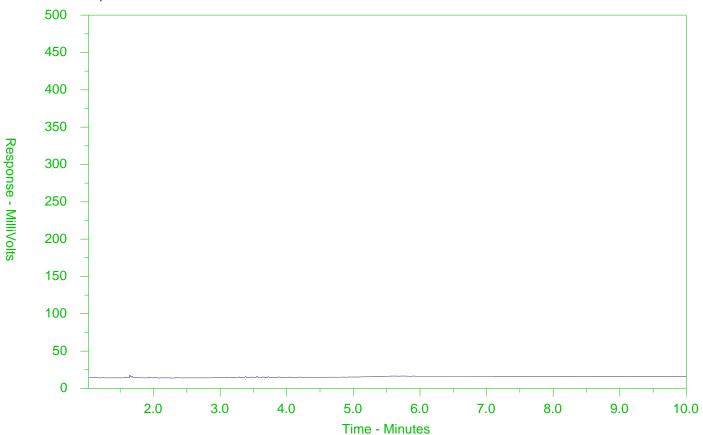
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2399298-2 Client Sample ID: MW101



| <b>←</b> -F2- | → ←                                    | _F3 <del></del> F4_ | <b>→</b> |  |  |
|---------------|----------------------------------------|---------------------|----------|--|--|
| nC10          | nC16                                   | nC34                | nC50     |  |  |
| 174°C         | 287°C                                  | 481°C               | 575°C    |  |  |
| 346°F         | 549°F                                  | 898°F               | 1067°F   |  |  |
| Gasolin       | Gasoline → Motor Oils/Lube Oils/Grease |                     |          |  |  |
| <b>←</b>      | ← Diesel/Jet Fuels→                    |                     |          |  |  |

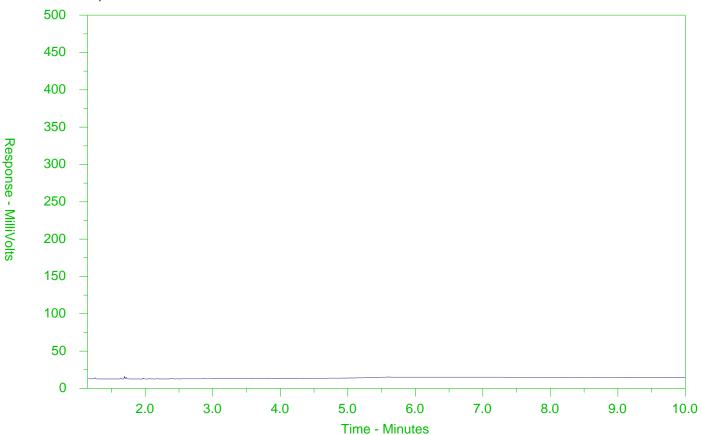
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2399298-3 Client Sample ID: MW102A



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

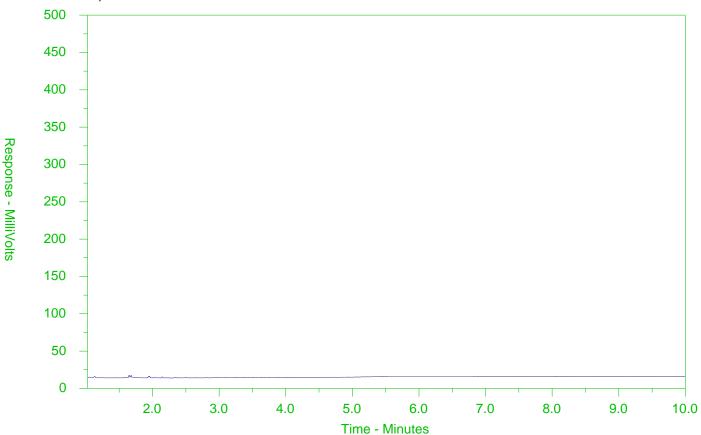
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2399298-4 Client Sample ID: MW102B



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

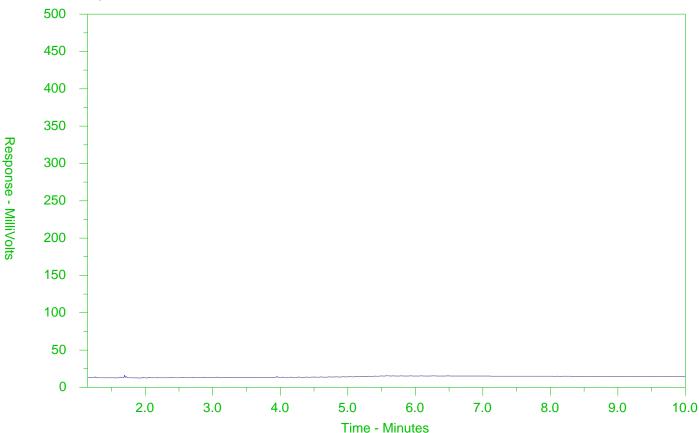
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2399298-5 Client Sample ID: MW103



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

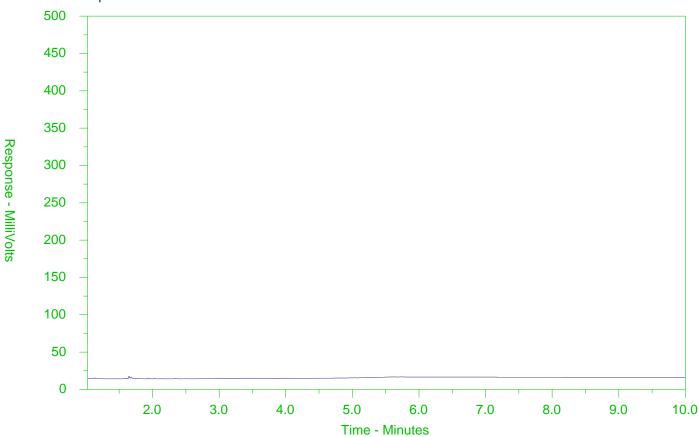
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2399298-6 Client Sample ID: MW104



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

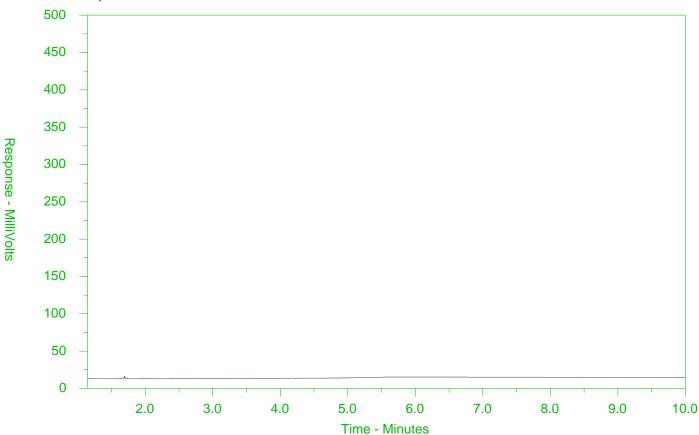
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2399298-7 Client Sample ID: MW106



| <b>←</b> -F2- | →-          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor Oils/Lube Oils/Grease | - |
| <b>←</b>      | -Diesel/Jet | Fuels→           |                           |   |

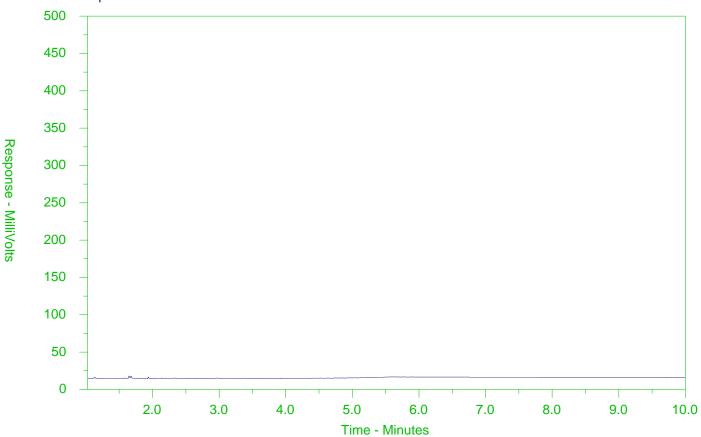
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2399298-8 Client Sample ID: MW107



| <b>←</b> -F2- | →-          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor Oils/Lube Oils/Grease | - |
| <b>←</b>      | -Diesel/Jet | Fuels→           |                           |   |

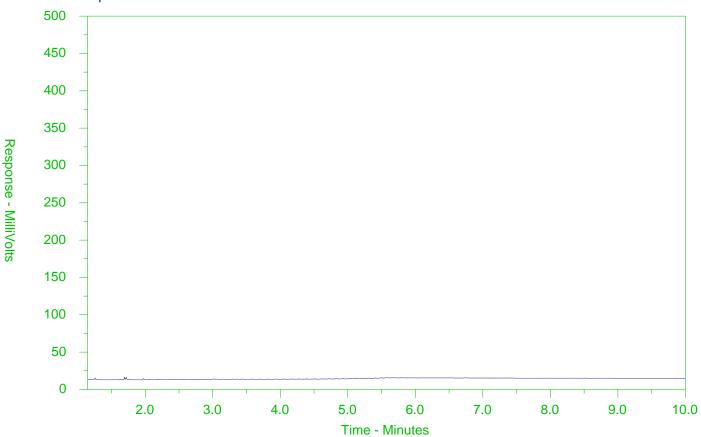
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2399298-10
Client Sample ID: MW108



| <b>←</b> -F2- | →-          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor Oils/Lube Oils/Grease | - |
| <b>←</b>      | -Diesel/Jet | Fuels→           |                           |   |

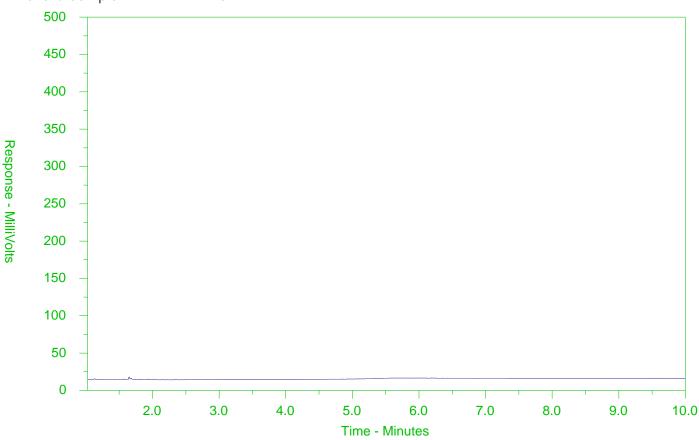
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2399298-11 Client Sample ID: MW109



| <b>←</b> -F2- | → ←         | —F3——◆4—F4- | <b>→</b>                    |   |
|---------------|-------------|-------------|-----------------------------|---|
| nC10          | nC16        | nC34        | nC50                        |   |
| 174°C         | 287°C       | 481°C       | 575°C                       |   |
| 346°F         | 549°F       | 898°F       | 1067°F                      |   |
| Gasolin       | e <b>→</b>  | <b>←</b> M  | otor Oils/Lube Oils/Grease— | - |
| <b>←</b>      | -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.

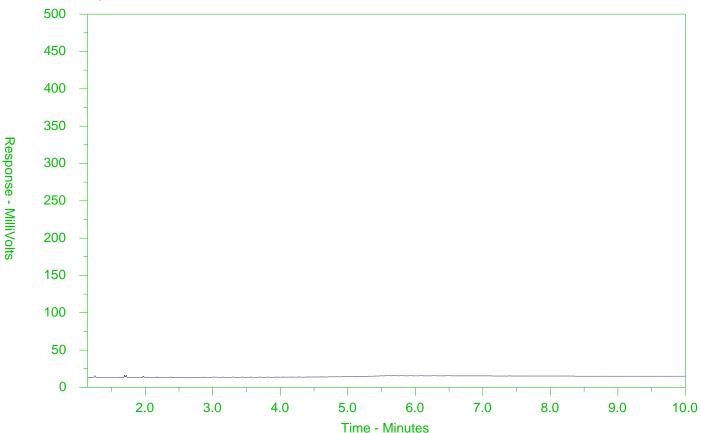
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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.



ALS Sample ID: L2399298-15

Client Sample ID: DUP1



| <b>←</b> -F2- | → ←         | —F3 —→←—F4— | <b>→</b>                    |   |
|---------------|-------------|-------------|-----------------------------|---|
| nC10          | nC16        | nC34        | nC50                        |   |
| 174°C         | 287°C       | 481°C       | 575°C                       |   |
| 346°F         | 549°F       | 898°F       | 1067°F                      |   |
| Gasolin       | ıe →        | ← Mot       | tor Oils/Lube Oils/Grease—— | - |
| <b>←</b>      | – Diesel/Je | t 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.

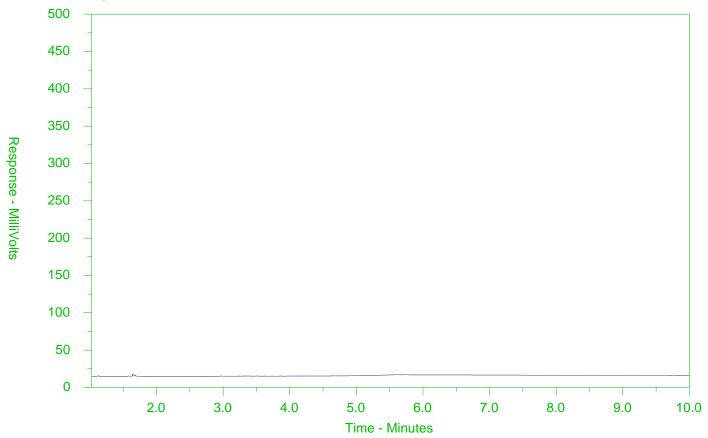
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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.



ALS Sample ID: L2399298-16

Client Sample ID: DUP2



| <b>←</b> -F2- | →-          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor Oils/Lube Oils/Grease | - |
| <b>←</b>      | -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.

#### Chain of Custody (COC) / Analyt Request Form



COC Number: 17 - 723815

Page ( of 2

ALS Environmental

Canada Toll Free: 1 800 668 9878

L2399298-COFC

|                                 | www.alsglobal.com                              |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                   |                    |                |                                                  |                         | _              |                 |                               |                 |                                                  |                    |                                                  |              | <del></del>      |                 | _            |
|---------------------------------|------------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------|----------------|--------------------------------------------------|-------------------------|----------------|-----------------|-------------------------------|-----------------|--------------------------------------------------|--------------------|--------------------------------------------------|--------------|------------------|-----------------|--------------|
| Report To                       | Contact and company name below will appear     | ar un the final report                  | Report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | omat / pieoroupu                                  | ·                  |                |                                                  |                         | e Lave         | Belov           | - Contac                      | t your AM I     | to confirm                                       | n ell E&P 1        | IATs (surcha                                     | rges ma      | / apply          | /}              | _            |
| Company:                        | Jacobs (Ct12M                                  |                                         | Select Report Format:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | l box, X l bxcer X                                |                    | L              | Reg                                              | jular [R                | 1 🛛            | Standa          | ed 141 lf m                   | conved by 3 p   | m - busines                                      | ss days - no       | surcharges app                                   | xtv          |                  |                 | ᆜ            |
| Conlact:                        | Michael Shiry                                  |                                         | Quality Control (QC) Report wi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ilh Report                                        | YES_] NO           | ę i            | 4 day                                            | <b> P4-20</b>           | % <b>!</b> / [ | _               | <u>@</u>  1                   | Busines         | s day [E·                                        | 100%]              |                                                  |              |                  |                 | Ш            |
| Phone.                          | 519-579-3500                                   |                                         | Compare Results to Criteria on I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                   |                    | ŠĮ             |                                                  | P3-25                   |                |                 |                               |                 |                                                  |                    | utory holide                                     | y [E2-2      | 00%              |                 | -1           |
|                                 | Company address below will appear on the final | report                                  | Select Distribution:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | EHAL.     MAIL                                    | FAX                | , F            |                                                  | JP2-50                  |                | _]              | $\mathbf{L} \cdot \mathbf{L}$ | Laborator       | y openin                                         | ig fees m          | ay appiyi ]                                      |              |                  |                 | <u>' ·  </u> |
| Straet                          | 72 Victoria St S S                             |                                         | Email 1 or Fax Michico                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                   |                    | 15             |                                                  |                         | -              |                 | IP TATO:                      |                 |                                                  |                    |                                                  | :            |                  |                 | _            |
| City/Province:                  | Kitchener ON                                   |                                         | Email2ecl. toves                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | @ jated                                           | <u>, (2</u> /101   |                | k Dat co                                         | not be pe               | eformed s      | ceeding         | to the service                | o level solecte | rd. you will b                                   | e çanlır.(Jed      |                                                  |              |                  |                 | _            |
| Postal Code.                    | N2G 449                                        |                                         | Email 3 Kathour ne.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | about of a                                        |                    | m              |                                                  |                         |                |                 |                               | Analysis        | Reques                                           | 1                  |                                                  |              | —                | a t             | ᆜ            |
| invoice To                      | Seme as Report To                              | NO                                      | Invo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ice,Distribution                                  | J                  | L.             |                                                  |                         |                | ed (F), P       | reserved (P                   | ) or Fitared a  | nd Present                                       | ed (F/P) bak       | > <del>**</del>                                  |              |                  | <b>1</b>        |              |
|                                 | Copy of Invoice with Report X ves              | NO ON                                   | Select Invoice Distribution:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 💢 EMATI 🗌 MAI                                     | . FAX              | PV.            |                                                  | <u>P   1</u>            | <u> </u>       | <u> </u>        | $\perp$                       |                 |                                                  |                    | $\sqcup$                                         | Ш            |                  |                 |              |
| Company:                        | Jauses !                                       |                                         | Email 1 or Fax                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | •                                                 |                    | Γ΄.            |                                                  | Ø\                      |                |                 |                               |                 |                                                  |                    |                                                  |              |                  | 튛ㅣ              |              |
| Contact:                        | Accounts Pay                                   | able                                    | Email 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                   |                    |                | 100                                              | 612                     | - 1            | ļ               |                               |                 |                                                  |                    |                                                  | ! <b>!</b>   | - 1              | provide turther |              |
|                                 | Project Information 3                          | 1                                       | A SAME TO A STATE OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME OF THE SAME | the part of the contract of the part of           |                    | <b>!</b> ~!    | 1                                                | . 50                    |                | - 1             |                               |                 |                                                  |                    |                                                  | ıl           | - 1              | 2               |              |
| ALS Account # /                 | Quote # 1072980                                |                                         | AFE/Cost Center                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | PO#                                               |                    | 14             | 3                                                | 3                       |                | -               |                               |                 | ļ                                                | i                  |                                                  |              |                  |                 | .            |
| Job#: CE                        | 751900                                         |                                         | Major/Mirea Gade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Routing Cod                                       | e-                 |                |                                                  | 5                       |                |                 |                               | 1               | i I                                              |                    |                                                  |              |                  | eses            | 88           |
| PO/AFE:                         |                                                |                                         | Requisitioner:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                   |                    | Ì≱             |                                                  | ₹,                      |                | -               |                               |                 | <u> </u>                                         |                    |                                                  |              | اہ               | # I             | <b>3</b>     |
| l.SD <sup>.</sup>               |                                                |                                         | Location:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                   |                    | Color          | hod                                              | 社                       |                | -               |                               |                 |                                                  |                    |                                                  |              | 호                | [ 활             | ě            |
| ALS Lab Wor                     | t Order # (feb use only); / 229                | 9798-201                                | ALS Contact:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sampler:                                          | /Peters            | $\sim$         | ۱.                                               |                         |                | 일~              | 3                             |                 |                                                  |                    | !  <br>!                                         |              | 8                | 5 Ha28          | OFC          |
|                                 | <u> </u>                                       | INIONE                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>`</u>                                          | <del>-</del> 1     | Metals         | Metals                                           |                         |                |                 | Ā I                           |                 |                                                  |                    |                                                  |              | PLES             | <u> </u>        | NUMBER       |
| ALS temple \$<br>(leb use only) | Sample Identification                          |                                         | Date<br>(dd-mmm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | l l                                               | Sample Type        | िक             | 2                                                | ₹.                      | Z 5            |                 | 벍                             |                 |                                                  |                    |                                                  | ļΙ           | ₹                | Signal Signal   | 2            |
| 1                               | (This description will a                       | ippear or the reporty                   | 10.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 77.                                               | 2 11/21/21         | <del>  -</del> | 1                                                | _                       | - + -          | <del>/  `</del> | 7                             | <del></del>     |                                                  |                    | <del>                                     </del> | $\vdash$     | <del>"</del> +   | **              | व            |
| (                               | WMIOO                                          |                                         | 19-12-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <del>· · · · · · · · · · · · · · · · · · · </del> |                    | ┼              | <del>  [}  </del>                                | Χļ                      | XΙΣ            | $\vdash$        | +                             |                 | <del>                                     </del> | -                  | $\vdash$                                         | ╂╍╌╂         | $\dashv$         |                 | ᆌ            |
|                                 | MWiOl                                          |                                         | 10- i2-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                   |                    | -              | 141                                              | 4+                      | 1              | <b>}</b> ├      | +                             | $\rightarrow$   | <del>}</del> -                                   | -                  | <del></del>                                      | ┥            | $\dashv$         |                 |              |
|                                 | MW102A                                         |                                         | 19-12-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -19 11:35                                         |                    |                | Ш                                                | Ш                       | 11_            | $\sqcup$        | $\perp \perp$                 | $\perp$         | $\perp \perp$                                    |                    | L.,                                              | 1            | 4                |                 | 9            |
| 9                               | MW102B                                         |                                         | 19-12-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 19 10:10                                          | . l                | i              |                                                  | L                       | <i>1</i> ],    | <u> </u>        |                               |                 |                                                  |                    |                                                  |              |                  |                 | 1            |
| [                               | MW103                                          |                                         | 18-12-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 19 16:4                                           |                    | ĺ              | ΙXΙ                                              | Χİ                      | ×i۷            | ۲               | Τi                            | i               | ii                                               | i                  |                                                  | <u>i i</u>   | i                |                 | 1            |
|                                 | MWIUT                                          |                                         | 20-12-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                   |                    | 1              | X                                                | $\overline{\mathbf{x}}$ | ΧĪ             | ζ X             |                               |                 |                                                  |                    |                                                  | $\Box$       |                  | ľ               | 9            |
|                                 | MW 10b                                         |                                         | 19-12-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                   |                    | ┪┈┈            | X.                                               | Ŷ١                      | ŽĮ,            | ŽΪ              | 1                             |                 | $\vdash$                                         |                    | 1                                                | 1            | 一                | ~               | 9            |
| <u>(</u>                        |                                                |                                         | 18-12-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1           |                    | ┼              | X                                                |                         | хХ             | 7               | +                             | _               | ┼┼                                               |                    |                                                  | "            | 一                | 7               | 9            |
|                                 | MWIOT                                          |                                         | <del></del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                   |                    | ₩              |                                                  | <del>-/-</del>  -       |                | ┰               | +                             | _               | ┼─┼                                              | <del></del> -      | + +                                              | $\Box$       | 一                | $\dashv$        | <b>†</b>     |
|                                 | MW107B                                         |                                         | 18-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                   | <del></del>        | X              | <del>                                     </del> | <del></del>             |                | ,               | +                             | _               | +                                                | <del>-   -</del> - | +                                                | ┤┤           | $\dashv$         | $\dashv$        | 4            |
|                                 | MMIOR                                          |                                         | 19-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -19 10:50                                         |                    | 1_             | X                                                | -                       | ××             | -               |                               |                 | $\vdash$                                         | <u> </u>           |                                                  | ∔            |                  |                 | 4            |
| H                               | MW109                                          |                                         | 19-12.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 19 8:45                                           | <u> </u>           |                | $\mathbf{x}$                                     | X                       | XX             |                 |                               |                 | $\perp \perp$                                    |                    | <del>                                     </del> | $\sqcup$     | $\dashv$         | _               | $\perp$      |
| 12                              | MWIIDA                                         |                                         | 20-12-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 19 8,55                                           | Natur              | X              | <b> </b>                                         |                         | ľ              |                 |                               |                 |                                                  |                    |                                                  |              |                  | 1               | <u> </u>     |
| ,                               |                                                | Special Instructions / :                | Specify Criteria to add on report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | by clicking on the dr                             | wolse fell nwob-go |                |                                                  |                         |                | SAMP            | LE CON                        | DITION AS       | REÇEN                                            | And (lab           | use only)                                        |              |                  |                 |              |
|                                 | g Water (DW) Samples' (client use)             |                                         | (electronic COC o                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | nly)                                              |                    | Froze          |                                                  | 4                       |                | _               |                               | bservations     | -                                                |                    | ⊒                                                | No           |                  |                 |              |
|                                 | 1 from a Regulated DW System?                  | Table 1 S                               | Strandards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | (diRea)                                           | 1                  | ice P          |                                                  |                         | coe Cub        | es 🗀            | Custo                         | dy seel inte    | ect '                                            | Yes                | □                                                | No           |                  | Ε.              | ]            |
| [ ] n                           | ,, , , , , , , , , , , , , , , , , , ,         |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                   | ,                  | Cooli          | ing Initil                                       |                         | Д              |                 |                               |                 | <b>.</b>                                         |                    |                                                  |              |                  |                 |              |
| Are samples for h               | uman consumption/ use?                         |                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | U                                                 |                    |                |                                                  | NITTIAL C               | DOLER          | TEMPER.         | ATUMAES *C                    |                 | -                                                | _                  | COOLER TEN                                       | PERATUR<br>! | <u>4£6 ℃</u>     | ·····           | <del></del>  |
| N                               | <u> </u>                                       |                                         | <u> </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                   |                    | 1              |                                                  |                         |                |                 | <u></u>                       |                 | 7.                                               |                    | 4.9                                              | ┖            |                  |                 |              |
| Total de la                     | 3 SHIPMENT RELEASE (client use)                | , , , , , , , , , , , , , , , , , , , , |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | IPMENT RESEPTIO                                   | N (lab use only)   | ( <del>+</del> | I                                                | B                       | and been       |                 | FINAL                         |                 |                                                  | PTION (I           | ab use only                                      | <b>}</b>     | Time'            |                 | _            |
| Released by:                    | Peters- 2019/12/                               | 20 11 Time.                             | Received by:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Da <b>ll</b>                                      |                    | Time           | •                                                | Receiv                  | Mad DA:        | 11              |                               | Desk            | .م.(آ"                                           | -71                | <u> ን// ។</u>                                    | ' <b>!</b>   | <sup>™</sup> ใั4 | '_('            | 5            |
| VIIMA                           | refer = 2019/12/                               |                                         | <u> </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1                                                 | GOV CODY VENTO     | MAT. FILL      | <u> </u>                                         | NO U                    |                | - J             | $\overline{}$                 |                 | VE                                               | 100                | <i>-</i>                                         |              |                  | 4472            | None         |

# ALS Environmental

#### Chain of Custody (COC) / Analytica Request Form



L2399298-COFC

COC Number: 17 - 826468

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#### Canada Toll Free: 1 800 668 9878 www.alsglobal.com Report To Contact and company hame below will appear on the final moort Report Formal / Distribution Select Service Level/Below - Contact your All to confirm all E&P TATs (surcharges may apply) Company 651 Cti2M Select Report Format: IV HON IX SECEL IX ECUROIGITALI Regular [R] Standard TAT if received by 3 pm + business days + no purcharges apply Contact: Quality Control (QC) Report with Report 4 day [P4-20%] Business day (E - 100%) Proces Compare Results to Critegia on Report - provide details below if box checked 3 day (P3-25%) Same Day, Weakend or Statutory holiday [E2 -200% Company address below will appear on the final report Select Distribution: X EMAIL | MAIL | FAX 2 day (P2-50%) (Laboratory opening fees may apply) 1 Victoria St. S. Street Emeil 1 or Farmichous. Shing@ lacobsuch Orts and Time Required for all EAP TATe: dd-mmm-vy hh:mm htv/Province: Email 2 ed. toyles (a racobsicem For tests that can not be performed eccording to the service level selected, you will be concepted. Postal Code: Email 3 Kathanna, apple by @ 10 cobc, com Analysis Request Same as Report To Invoice To ĺX[vεs|∣ Invoice Distribution Indicate Pitered (F). Preserved (P) or Pittered and Preserved (P/P) below ON HOLD CONTAINERS Copy of Invoice with Report yes | | Select Invoice Distribution: MAJL FAX EYATL -Company; Email 1 or Fax Paga Ble Contact Email 2 Project Information Oil and Gas Required Fields (client use) ALS Account # / Quote # 042980 AFE/Cost Demail PO# inb#: MajoriMnor Code. Routing Code SAMPLES PO / AFE: 6 Requisitioner SD Location: ALS Lab Work Order # (lab use only): v ALS Contact: Sample Identification and/or Coordinates ALS Sample # Death Time Sample Type (leb use only) (This description will appear on the report) (dd-mmm-yy) (hits mum) MWIIOB 122505940 Water Natur Water XX SAMPLE CONDITION AS RECEIVED (lab use only) Special Instructions / Specify Criteria to add on report by clicking on the drop-down list below Drinking Water (OW) Samples' (client use) (electronic COC only) П SIF Observations Frozen О Νo Are samples taken from a Regulated DW System? kce Packs 🔲 ice Cubes ...... Custody seef intact О Νo Cooling initiated | | DUP 3- limbeel Are samples for human consumption/ use? NUTTAL COOLER TEMPERATURES C FINAL COOLER TEMPERATURES C yes jX SHIPMENT RELEASE (client use) INITIAL SHIPMENT RECEPTION (lab use only) FINAL SHIPMENT RECEPTION (lab use only) Released by: Received by. Time:\_ Oste Time: Received by: Date:

WHITE - LABORATORY COPY

YELLOW - CLIENT COPY

REFER TO BACK PAGE FOR ALK LOCATIONS AND SAMPLING INFORMATION



CH2M HILL CANADA LIMITED

ATTN: Michael Shiry

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 10-JAN-20

Report Date: 15-JAN-20 14:50 (MT)

Version: FINAL

Client Phone: 519-579-3500

## Certificate of Analysis

Lab Work Order #: L2404428
Project P.O. #: NOT SUBMITTED

Job Reference: CE751900 C of C Numbers: 17-724135

Legal Site Desc:

Emily Hansen Account Manager

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L2404428 CONTD....

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| E751900                             | ANALT   | ICAL      |        | Page 2 of 8<br>15-JAN-20 14:50 (MT) |                        |      |                  |
|-------------------------------------|---------|-----------|--------|-------------------------------------|------------------------|------|------------------|
| Sample Details                      |         |           |        |                                     |                        |      |                  |
| Grouping Analyte                    | Result  | Qualifier | D.L.   | Units                               | Analyzed               |      | Guideline Limits |
| .2404428-1 MW112- 5.2-5.5           |         |           |        |                                     |                        |      |                  |
| Sampled By: V.PETERS on 09-JAN-20 @ | 11:15   |           |        |                                     |                        |      |                  |
| Matrix: SOIL                        |         |           |        |                                     |                        | #1   |                  |
| Physical Tests                      |         |           |        |                                     |                        |      |                  |
| % Moisture                          | 14.4    |           | 0.25   | %                                   | 11-JAN-20              |      |                  |
| Volatile Organic Compounds          | 14.4    |           | 0.23   | 70                                  | 11-5/11-20             |      |                  |
| Acetone                             | <0.50   |           | 0.50   | ug/g                                | 14-JAN-20              | 0.5  |                  |
| Benzene                             | <0.0068 |           | 0.0068 | ug/g<br>ug/g                        | 14-JAN-20<br>14-JAN-20 | 0.5  |                  |
| Bromodichloromethane                | <0.050  |           | 0.0008 | ug/g<br>ug/g                        | 14-JAN-20<br>14-JAN-20 | 0.02 |                  |
| Bromoform                           | <0.050  |           | 0.050  | ug/g<br>ug/g                        | 14-JAN-20<br>14-JAN-20 | 0.05 |                  |
| Bromomethane                        | <0.050  |           | 0.050  |                                     | 14-JAN-20<br>14-JAN-20 | 0.05 |                  |
| Carbon tetrachloride                | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20<br>14-JAN-20 | 0.05 |                  |
| Chlorobenzene                       | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20<br>14-JAN-20 | 0.05 |                  |
| Dibromochloromethane                |         |           | 0.050  | ug/g                                | 14-JAN-20<br>14-JAN-20 |      |                  |
|                                     | <0.050  |           |        | ug/g                                |                        | 0.05 |                  |
| Chloroform                          | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,2-Dibromoethane                   | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,2-Dichlorobenzene                 | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,3-Dichlorobenzene                 | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,4-Dichlorobenzene                 | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Dichlorodifluoromethane             | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,1-Dichloroethane                  | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,2-Dichloroethane                  | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,1-Dichloroethylene                | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| cis-1,2-Dichloroethylene            | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| trans-1,2-Dichloroethylene          | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Methylene Chloride                  | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,2-Dichloropropane                 | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| cis-1,3-Dichloropropene             | <0.030  |           | 0.030  | ug/g                                | 14-JAN-20              |      |                  |
| trans-1,3-Dichloropropene           | <0.030  |           | 0.030  | ug/g                                | 14-JAN-20              |      |                  |
| 1,3-Dichloropropene (cis & trans)   | <0.042  |           | 0.042  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Ethylbenzene                        | <0.018  |           | 0.018  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| n-Hexane                            | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Methyl Ethyl Ketone                 | <0.50   |           | 0.50   | ug/g                                | 14-JAN-20              | 0.5  |                  |
| Methyl Isobutyl Ketone              | <0.50   |           | 0.50   | ug/g                                | 14-JAN-20              | 0.5  |                  |
| MTBE                                | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Styrene                             | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,1,1,2-Tetrachloroethane           | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,1,2,2-Tetrachloroethane           | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Tetrachloroethylene                 | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Toluene                             | <0.080  |           | 0.080  | ug/g                                | 14-JAN-20              | 0.2  |                  |
| 1,1,1-Trichloroethane               | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| 1,1,2-Trichloroethane               | <0.050  |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Trichloroethylene                   | <0.010  |           | 0.010  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Trichlorofluoromethane              | < 0.050 |           | 0.050  | ug/g                                | 14-JAN-20              | 0.25 |                  |
| Vinyl chloride                      | <0.020  |           | 0.020  | ug/g                                | 14-JAN-20              | 0.02 |                  |
| o-Xylene                            | <0.020  |           | 0.020  | ug/g                                | 14-JAN-20              |      |                  |
| m+p-Xylenes                         | <0.030  |           | 0.030  | ug/g                                | 14-JAN-20              |      |                  |
| Xylenes (Total)                     | < 0.050 |           | 0.050  | ug/g                                | 14-JAN-20              | 0.05 |                  |
| Surrogate: 4-Bromofluorobenzene     | 88.1    |           | 50-140 | %                                   | 14-JAN-20              |      |                  |
| Surrogate: 1,4-Difluorobenzene      | 100.7   |           | 50-140 | %                                   | 14-JAN-20              |      |                  |

<sup>\*\*</sup> 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:



CE751900

### **ANALYTICAL GUIDELINE REPORT**

L2404428 CONTD.... Page 3 of 8 15-JAN-20 14:50 (MT)

| CE751900                                 | 15-JAN-20 14:50 (MT) |           |          |              |                        |       |                  |  |
|------------------------------------------|----------------------|-----------|----------|--------------|------------------------|-------|------------------|--|
| Sample Details Grouping Analyte          | Result               | Qualifier | D.L.     | Units        | Analyzed               |       | Guideline Limits |  |
| L2404428-1 MW112- 5.2-5.5                |                      |           |          |              |                        |       |                  |  |
| Sampled By: V.PETERS on 09-JAN-20 @ 11:1 | 5                    |           |          |              |                        |       |                  |  |
| Matrix: SOIL                             |                      |           |          |              |                        | #1    |                  |  |
| Hydrocarbona                             |                      |           |          |              |                        |       |                  |  |
| Hydrocarbons                             | 5.0                  |           | 5.0      |              | 44 1411 00             | 0.5   |                  |  |
| F1 (C6-C10)                              | <5.0                 |           | 5.0      | ug/g         | 14-JAN-20              | 25    |                  |  |
| F1-BTEX                                  | <5.0                 |           | 5.0      | ug/g         | 14-JAN-20              | 25    |                  |  |
| F2 (C10-C16)                             | <10                  |           | 10       | ug/g         | 13-JAN-20              | 10    |                  |  |
| F2-Naphth                                | <10<br><50           |           | 10<br>50 | ug/g         | 14-JAN-20<br>13-JAN-20 | 240   |                  |  |
| F3 (C16-C34)<br>F3-PAH                   | <50                  |           | 50       | ug/g<br>ug/g | 14-JAN-20              | 240   |                  |  |
| F4 (C34-C50)                             | <50<br><50           |           | 50       | ug/g<br>ug/g | 13-JAN-20              | 120   |                  |  |
| Total Hydrocarbons (C6-C50)              | <72                  |           | 72       | ug/g         | 14-JAN-20              | 120   |                  |  |
| Chrom. to baseline at nC50               | YES                  |           | 12       | No Unit      | 13-JAN-20              |       |                  |  |
| Surrogate: 2-Bromobenzotrifluoride       | 100.8                |           | 60-140   | %            | 13-JAN-20              |       |                  |  |
| Surrogate: 3,4-Dichlorotoluene           | 88.7                 |           | 60-140   | %            | 14-JAN-20              |       |                  |  |
| Polycyclic Aromatic Hydrocarbons         |                      |           |          |              |                        |       |                  |  |
| Acenaphthene                             | < 0.050              |           | 0.050    | ug/g         | 14-JAN-20              | 0.072 |                  |  |
| Acenaphthylene                           | < 0.050              |           | 0.050    | ug/g         | 14-JAN-20              | 0.093 |                  |  |
| Anthracene                               | < 0.050              |           | 0.050    | ug/g         | 14-JAN-20              | 0.16  |                  |  |
| Benzo(a)anthracene                       | 0.119                |           | 0.050    | ug/g         | 14-JAN-20              | 0.36  |                  |  |
| Benzo(a)pyrene                           | 0.121                |           | 0.050    | ug/g         | 14-JAN-20              | 0.3   |                  |  |
| Benzo(b)fluoranthene                     | 0.188                |           | 0.050    | ug/g         | 14-JAN-20              | 0.47  |                  |  |
| Benzo(g,h,i)perylene                     | 0.125                |           | 0.050    | ug/g         | 14-JAN-20              | 0.68  |                  |  |
| Benzo(k)fluoranthene                     | 0.067                |           | 0.050    | ug/g         | 14-JAN-20              | 0.48  |                  |  |
| Chrysene                                 | 0.143                |           | 0.050    | ug/g         | 14-JAN-20              | 2.8   |                  |  |
| Dibenzo(ah)anthracene                    | < 0.050              |           | 0.050    | ug/g         | 14-JAN-20              | 0.1   |                  |  |
| Fluoranthene                             | 0.191                |           | 0.050    | ug/g         | 14-JAN-20              | 0.56  |                  |  |
| Fluorene                                 | < 0.050              |           | 0.050    | ug/g         | 14-JAN-20              | 0.12  |                  |  |
| Indeno(1,2,3-cd)pyrene                   | 0.130                |           | 0.050    | ug/g         | 14-JAN-20              | 0.23  |                  |  |
| 1+2-Methylnaphthalenes                   | < 0.042              |           | 0.042    | ug/g         | 14-JAN-20              | 0.59  |                  |  |
| 1-Methylnaphthalene                      | < 0.030              |           | 0.030    | ug/g         | 14-JAN-20              | 0.59  |                  |  |
| 2-Methylnaphthalene                      | < 0.030              |           | 0.030    | ug/g         | 14-JAN-20              | 0.59  |                  |  |
| Naphthalene                              | < 0.013              |           | 0.013    | ug/g         | 14-JAN-20              | 0.09  |                  |  |
| Phenanthrene                             | 0.108                |           | 0.046    | ug/g         | 14-JAN-20              | 0.69  |                  |  |
| Pyrene                                   | 0.207                |           | 0.050    | ug/g         | 14-JAN-20              | 1     |                  |  |
| Surrogate: 2-Fluorobiphenyl              | 90.8                 |           | 50-140   | %            | 14-JAN-20              |       |                  |  |
| Surrogate: p-Terphenyl d14               | 91.6                 |           | 50-140   | %            | 14-JAN-20              |       |                  |  |
| L2404428-2 MW112-7.25-7.5                |                      |           |          |              |                        |       |                  |  |
| Sampled By: V.PETERS on 09-JAN-20 @ 11:3 | 0                    |           |          |              |                        |       |                  |  |
| Matrix: SOIL                             |                      |           |          |              |                        | #1    |                  |  |
| Physical Tests                           |                      |           |          |              |                        |       |                  |  |
|                                          | 40.5                 |           | 0.05     | 0,           | 44 100 00              |       |                  |  |
| % Moisture Volatile Organic Compounds    | 10.5                 |           | 0.25     | %            | 11-JAN-20              |       |                  |  |
|                                          | -O EO                |           | 0.50     |              | 14 14 14               | 0.5   |                  |  |
| Acetone                                  | <0.50                |           | 0.50     | ug/g         | 14-JAN-20<br>14-JAN-20 | 0.5   |                  |  |
| Benzene                                  | <0.0068              |           | 0.0068   | ug/g         |                        | 0.02  |                  |  |
| Bromodichloromethane                     | <0.050               |           | 0.050    | ug/g         | 14-JAN-20              | 0.05  |                  |  |
| Bromoform Bromomethane                   | <0.050               |           | 0.050    | ug/g         | 14-JAN-20              | 0.05  |                  |  |
|                                          | <0.050               |           | 0.050    | ug/g         | 14-JAN-20              | 0.05  |                  |  |
| Carbon tetrachloride                     | <0.050               |           | 0.050    | ug/g         | 14-JAN-20              | 0.05  |                  |  |

<sup>\*\*</sup> 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:



L2404428 CONTD....

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| CE751900                            | Page 4 of 8<br>15-JAN-20 14:50 (M |           |        |              |           |      |                  |
|-------------------------------------|-----------------------------------|-----------|--------|--------------|-----------|------|------------------|
| Sample Details                      |                                   |           |        |              |           |      |                  |
| Grouping Analyte                    | Result                            | Qualifier | D.L.   | Units        | Analyzed  | (    | Buideline Limits |
| L2404428-2 MW112-7.25-7.5           |                                   |           |        |              |           |      |                  |
| Sampled By: V.PETERS on 09-JAN-20 @ | 11:30                             |           |        |              |           |      |                  |
| Matrix: SOIL                        |                                   |           |        |              |           | #1   |                  |
| Volatile Organic Compounds          |                                   |           |        |              |           |      |                  |
| Chlorobenzene                       | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Dibromochloromethane                | <0.050                            |           | 0.050  | ug/g<br>ug/g | 14-JAN-20 | 0.05 |                  |
| Chloroform                          | <0.050                            |           | 0.050  | ug/g<br>ug/g | 14-JAN-20 | 0.05 |                  |
| 1,2-Dibromoethane                   | <0.050                            |           | 0.050  | ug/g<br>ug/g | 14-JAN-20 | 0.05 |                  |
| 1,2-Dichlorobenzene                 | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| 1,3-Dichlorobenzene                 | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| 1,4-Dichlorobenzene                 | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Dichlorodifluoromethane             | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| 1,1-Dichloroethane                  | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| 1,2-Dichloroethane                  | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| 1,1-Dichloroethylene                | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| cis-1,2-Dichloroethylene            | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| trans-1,2-Dichloroethylene          | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Methylene Chloride                  | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| 1,2-Dichloropropane                 | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| cis-1,3-Dichloropropene             | <0.030                            |           | 0.030  | ug/g         | 14-JAN-20 | 0.00 |                  |
| trans-1,3-Dichloropropene           | <0.030                            |           | 0.030  | ug/g         | 14-JAN-20 |      |                  |
| 1,3-Dichloropropene (cis & trans)   | < 0.042                           |           | 0.042  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Ethylbenzene                        | <0.018                            |           | 0.018  | ug/g         | 14-JAN-20 | 0.05 |                  |
| n-Hexane                            | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Methyl Ethyl Ketone                 | <0.50                             |           | 0.50   | ug/g         | 14-JAN-20 | 0.5  |                  |
| Methyl Isobutyl Ketone              | < 0.50                            |           | 0.50   | ug/g         | 14-JAN-20 | 0.5  |                  |
| MTBE                                | < 0.050                           |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Styrene                             | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| 1,1,1,2-Tetrachloroethane           | < 0.050                           |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| 1,1,2,2-Tetrachloroethane           | < 0.050                           |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Tetrachloroethylene                 | < 0.050                           |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Toluene                             | <0.080                            |           | 0.080  | ug/g         | 14-JAN-20 | 0.2  |                  |
| 1,1,1-Trichloroethane               | < 0.050                           |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| 1,1,2-Trichloroethane               | < 0.050                           |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Trichloroethylene                   | <0.010                            |           | 0.010  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Trichlorofluoromethane              | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.25 |                  |
| Vinyl chloride                      | <0.020                            |           | 0.020  | ug/g         | 14-JAN-20 | 0.02 |                  |
| o-Xylene                            | <0.020                            |           | 0.020  | ug/g         | 14-JAN-20 |      |                  |
| m+p-Xylenes                         | <0.030                            |           | 0.030  | ug/g         | 14-JAN-20 |      |                  |
| Xylenes (Total)                     | <0.050                            |           | 0.050  | ug/g         | 14-JAN-20 | 0.05 |                  |
| Surrogate: 4-Bromofluorobenzene     | 84.6                              |           | 50-140 | %            | 14-JAN-20 |      |                  |
| Surrogate: 1,4-Difluorobenzene      | 98.0                              |           | 50-140 | %            | 14-JAN-20 |      |                  |
| Hydrocarbons                        |                                   |           |        |              |           |      |                  |
| F1 (C6-C10)                         | <5.0                              |           | 5.0    | ug/g         | 14-JAN-20 | 25   |                  |
| F1-BTEX                             | <5.0                              |           | 5.0    | ug/g         | 14-JAN-20 | 25   |                  |
| F2 (C10-C16)                        | <10                               |           | 10     | ug/g         | 13-JAN-20 | 10   |                  |
| F2-Naphth                           | <10                               |           | 10     | ug/g         | 14-JAN-20 |      |                  |
| F3 (C16-C34)                        | <50                               |           | 50     | ug/g         | 13-JAN-20 | 240  |                  |
| F3-PAH                              | <50                               |           | 50     | ug/g         | 14-JAN-20 |      |                  |
| F4 (C34-C50)                        | <50                               |           | 50     | ug/g         | 13-JAN-20 | 120  |                  |

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:



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| CE751900                                                            | ANALI   | IICAL     | GUID   | LLINL        | KLFON     |          | Page 5 of 8<br>15-JAN-20 14:50 (MT) |
|---------------------------------------------------------------------|---------|-----------|--------|--------------|-----------|----------|-------------------------------------|
| Sample Details<br>Grouping Analyte                                  | Result  | Qualifier | D.L.   | Units        | Analyzed  | Guidelir | ne Limits                           |
| 7 7                                                                 |         | Qualifier |        |              | Analyzea  | Guidelli | ic Limits                           |
| L2404428-2 MW112-7.25-7.5<br>Sampled By: V.PETERS on 09-JAN-20 @ 11 | .30     |           |        |              |           |          |                                     |
| •                                                                   | .30     |           |        |              |           | #1       |                                     |
| Matrix: SOIL                                                        |         |           |        |              |           |          |                                     |
| Hydrocarbons                                                        |         |           |        |              |           |          |                                     |
| Total Hydrocarbons (C6-C50)                                         | <72     |           | 72     | ug/g         | 14-JAN-20 |          |                                     |
| Chrom. to baseline at nC50                                          | YES     |           |        | No Unit      | 13-JAN-20 |          |                                     |
| Surrogate: 2-Bromobenzotrifluoride                                  | 101.5   |           | 60-140 | %            | 13-JAN-20 |          |                                     |
| Surrogate: 3,4-Dichlorotoluene                                      | 82.4    |           | 60-140 | %            | 14-JAN-20 |          |                                     |
| Polycyclic Aromatic Hydrocarbons                                    |         |           |        |              |           |          |                                     |
| Acenaphthene                                                        | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.072    |                                     |
| Acenaphthylene                                                      | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.093    |                                     |
| Anthracene                                                          | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.16     |                                     |
| Benzo(a)anthracene                                                  | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.36     |                                     |
| Benzo(a)pyrene                                                      | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.3      |                                     |
| Benzo(b)fluoranthene                                                | 0.054   |           | 0.050  | ug/g         | 14-JAN-20 | 0.47     |                                     |
| Benzo(g,h,i)perylene                                                | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.68     |                                     |
| Benzo(k)fluoranthene                                                | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.48     |                                     |
| Chrysene                                                            | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 2.8      |                                     |
| Dibenzo(ah)anthracene                                               | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.1      |                                     |
| Fluoranthene                                                        | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.56     |                                     |
| Fluorene                                                            | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.12     |                                     |
| Indeno(1,2,3-cd)pyrene                                              | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.23     |                                     |
| 1+2-Methylnaphthalenes                                              | <0.042  |           | 0.042  | ug/g         | 14-JAN-20 | 0.59     |                                     |
| 1-Methylnaphthalene                                                 | <0.030  |           | 0.030  | ug/g         | 14-JAN-20 | 0.59     |                                     |
| 2-Methylnaphthalene                                                 | <0.030  |           | 0.030  | ug/g         | 14-JAN-20 | 0.59     |                                     |
| Naphthalene                                                         | <0.013  |           | 0.013  | ug/g         | 14-JAN-20 | 0.09     |                                     |
| Phenanthrene                                                        | <0.046  |           | 0.046  | ug/g         | 14-JAN-20 | 0.69     |                                     |
| Pyrene                                                              | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 1        |                                     |
| Surrogate: 2-Fluorobiphenyl                                         | 90.5    |           | 50-140 | %            | 14-JAN-20 |          |                                     |
| Surrogate: p-Terphenyl d14                                          | 89.7    |           | 50-140 | %            | 14-JAN-20 |          |                                     |
| L2404428-3 TB-001                                                   |         |           |        |              |           |          |                                     |
| Sampled By: V.PETERS on 09-JAN-20                                   |         |           |        |              |           |          |                                     |
| Matrix: SOIL                                                        |         |           |        |              |           | #1       |                                     |
| Physical Tests                                                      |         |           |        |              |           |          |                                     |
| % Moisture                                                          | <0.25   |           | 0.25   | %            | 11-JAN-20 |          |                                     |
| Volatile Organic Compounds                                          | <0.25   |           | 0.23   | /0           | 11-0AN-20 |          |                                     |
| Acetone                                                             | <0.50   |           | 0.50   | ug/g         | 14-JAN-20 | 0.5      |                                     |
| Benzene                                                             | <0.0068 |           | 0.0068 | ug/g<br>ug/g | 14-JAN-20 | 0.02     |                                     |
| Bromodichloromethane                                                | <0.050  |           | 0.050  | ug/g<br>ug/g | 14-JAN-20 | 0.05     |                                     |
| Bromoform                                                           | <0.050  |           | 0.050  | ug/g<br>ug/g | 14-JAN-20 | 0.05     |                                     |
| Bromomethane                                                        | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.05     |                                     |
| Carbon Disulfide                                                    | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.00     |                                     |
| Carbon tetrachloride                                                | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.05     |                                     |
| Chlorobenzene                                                       | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.05     |                                     |
| Dibromochloromethane                                                | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.05     |                                     |
| Chloroethane                                                        | <0.020  |           | 0.020  | ug/g         | 14-JAN-20 | 0.00     |                                     |
| Chloroform                                                          | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.05     |                                     |
| Chloromethane                                                       | <0.020  |           | 0.020  | ug/g         | 14-JAN-20 | 0.00     |                                     |
| 1,2-Dibromoethane                                                   | <0.050  |           | 0.050  | ug/g         | 14-JAN-20 | 0.05     |                                     |
| ,                                                                   |         |           |        | 1 3 3        |           |          |                                     |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



L2404428 CONTD.... Page 6 of 8

CE751900 15-JAN-20 14:50 (MT)

| Sample Details Grouping Analyte   | Result | Qualifier | D.L.   | Units | Analyzed    |      |          | ne Limits |  |
|-----------------------------------|--------|-----------|--------|-------|-------------|------|----------|-----------|--|
| L2404428-3 TB-001                 |        |           |        | 0.110 | 7 indry 200 |      | Jaiaolii | Limito    |  |
| Sampled By: V.PETERS on 09-JAN-20 |        |           |        |       |             |      |          |           |  |
| l ' '                             |        |           |        |       |             | #1   |          |           |  |
|                                   |        |           |        |       |             |      |          |           |  |
| Volatile Organic Compounds        |        |           |        |       |             |      |          |           |  |
| Dibromomethane                    | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   |      |          |           |  |
| 1,2-Dichlorobenzene               | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 1,3-Dichlorobenzene               | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 1,4-Dichlorobenzene               | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| Dichlorodifluoromethane           | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 1,1-Dichloroethane                | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 1,2-Dichloroethane                | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 1,1-Dichloroethylene              | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| cis-1,2-Dichloroethylene          | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| trans-1,2-Dichloroethylene        | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| Dichloromethane                   | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 1,2-Dichloropropane               | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| cis-1,3-Dichloropropene           | <0.030 |           | 0.030  | ug/g  | 14-JAN-20   |      |          |           |  |
| trans-1,3-Dichloropropene         | <0.030 |           | 0.030  | ug/g  | 14-JAN-20   |      |          |           |  |
| Ethylbenzene                      | <0.018 |           | 0.018  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| n-Hexane                          | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 2-Hexanone                        | <0.50  |           | 0.50   | ug/g  | 14-JAN-20   |      |          |           |  |
| Methyl Ethyl Ketone               | <0.50  |           | 0.50   | ug/g  | 14-JAN-20   | 0.5  |          |           |  |
| Methyl Isobutyl Ketone            | <0.50  |           | 0.50   | ug/g  | 14-JAN-20   | 0.5  |          |           |  |
| MTBE                              | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| Styrene                           | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 1,1,1,2-Tetrachloroethane         | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 1,1,2,2-Tetrachloroethane         | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| Tetrachloroethylene               | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| Toluene                           | <0.080 |           | 0.080  | ug/g  | 14-JAN-20   | 0.2  |          |           |  |
| 1,1,1-Trichloroethane             | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| 1,1,2-Trichloroethane             | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| Trichloroethylene                 | <0.010 |           | 0.010  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| Trichlorofluoromethane            | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.25 |          |           |  |
| Vinyl chloride                    | <0.020 |           | 0.020  | ug/g  | 14-JAN-20   | 0.02 |          |           |  |
| o-Xylene                          | <0.020 |           | 0.020  | ug/g  | 14-JAN-20   |      |          |           |  |
| m+p-Xylenes                       | <0.030 |           | 0.030  | ug/g  | 14-JAN-20   |      |          |           |  |
| Xylenes (Total)                   | <0.050 |           | 0.050  | ug/g  | 14-JAN-20   | 0.05 |          |           |  |
| Surrogate: 4-Bromofluorobenzene   | 88.6   |           | 70-130 | %     | 14-JAN-20   |      |          |           |  |
| Surrogate: 1,4-Difluorobenzene    | 104.8  |           | 70-130 | %     | 14-JAN-20   |      |          |           |  |
| Trihalomethanes                   |        |           |        |       |             |      |          |           |  |
| Total THMs                        | <0.10  |           | 0.10   | ug/g  | 14-JAN-20   |      |          |           |  |
|                                   |        |           |        |       |             |      |          |           |  |
|                                   |        |           |        |       |             |      |          |           |  |
|                                   |        |           |        |       |             |      |          |           |  |
|                                   |        |           |        |       |             |      |          |           |  |
|                                   |        |           |        |       |             |      |          |           |  |
|                                   |        |           |        |       |             |      |          |           |  |
|                                   |        |           |        |       |             |      |          |           |  |
|                                   |        |           |        |       |             |      |          |           |  |

<sup>\*\*</sup> 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:

#### **Reference Information**

Methods Listed (if applicable):

| ALS Test Code     | Matrix | Test Description                        | Method Reference***                 |
|-------------------|--------|-----------------------------------------|-------------------------------------|
| 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), 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), 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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

THM-SUM-CALC-WT Soil Total Trihalomethanes (THMs) CALCULATION

Total Trihalomethanes (THMs) represents the sum of bromodichloromethane, bromoform, chlorodibromomethane and chloroform. For the purpose of calculation, results less than the detection limit (DL) are treated as zero.

VOC-1,3-DCP-CALC-WT Soil Regulation 153 VOCs SW8260B/SW8270C

#### **Reference Information**

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), 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-ROU-HS-WT Soil Volatile Organic Compounds SW846 8260

Soil and sediment samples are extracted in methanol and analyzed by headspace-GC/MS. XYLENES-SUM-CALC- Soil Sum of Xylene Isomer CALCULATION

VT Concentrations

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:

17-724135

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<br>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.



Workorder: L2404428 Report Date: 15-JAN-20 Page 1 of 15

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                             | N            | Matrix      | Reference                 | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|----------------------------------|--------------|-------------|---------------------------|--------|-----------|-------|-----|--------|-----------|
| F1-HS-511-WT                     | ,            | Soil        |                           |        |           |       |     |        |           |
| Batch R4                         | 967521       |             |                           |        |           |       |     |        |           |
| <b>WG3255867-4</b> F1 (C6-C10)   | DUP          |             | <b>WG3255867-3</b> <5.0   | <5.0   | RPD-NA    | ug/g  | N/A | 30     | 14-JAN-20 |
| <b>WG3255867-2</b> F1 (C6-C10)   | LCS          |             |                           | 102.3  |           | %     |     | 80-120 | 14-JAN-20 |
| <b>WG3255867-1</b> F1 (C6-C10)   | МВ           |             |                           | <5.0   |           | ug/g  |     | 5      | 14-JAN-20 |
| Surrogate: 3,4-l                 | Dichlorotolu | uene        |                           | 97.2   |           | %     |     | 60-140 | 14-JAN-20 |
| <b>WG3255867-8</b> F1 (C6-C10)   | MS           |             | L2404483-1                | 89.7   |           | %     |     | 60-140 | 14-JAN-20 |
| F2-F4-511-WT                     | ;            | Soil        |                           |        |           |       |     |        |           |
| Batch R4                         | 967911       |             |                           |        |           |       |     |        |           |
| <b>WG3255955-3</b> F2 (C10-C16)  | DUP          |             | <b>WG3255955-5</b> <10    | <10    | RPD-NA    | ug/g  | N/A | 30     | 13-JAN-20 |
| F3 (C16-C34)                     |              |             | <50                       | <50    | RPD-NA    | ug/g  | N/A | 30     | 13-JAN-20 |
| F4 (C34-C50)                     |              |             | <50                       | <50    | RPD-NA    | ug/g  | N/A | 30     | 13-JAN-20 |
| <b>WG3255955-2</b> F2 (C10-C16)  | LCS          |             |                           | 112.2  |           | %     |     | 80-120 | 13-JAN-20 |
| F3 (C16-C34)                     |              |             |                           | 110.4  |           | %     |     | 80-120 | 13-JAN-20 |
| F4 (C34-C50)                     |              |             |                           | 111.9  |           | %     |     | 80-120 | 13-JAN-20 |
| <b>WG3255955-1</b> F2 (C10-C16)  | МВ           |             |                           | <10    |           | ug/g  |     | 10     | 13-JAN-20 |
| F3 (C16-C34)                     |              |             |                           | <50    |           | ug/g  |     | 50     | 13-JAN-20 |
| F4 (C34-C50)                     |              |             |                           | <50    |           | ug/g  |     | 50     | 13-JAN-20 |
| Surrogate: 2-Br                  | omobenzot    | trifluoride |                           | 75.0   |           | %     |     | 60-140 | 13-JAN-20 |
| WG3255955-4                      | MS           |             | WG3255955-5               |        |           |       |     |        |           |
| F2 (C10-C16)                     |              |             |                           | 101.0  |           | %     |     | 60-140 | 13-JAN-20 |
| F3 (C16-C34)                     |              |             |                           | 107.0  |           | %     |     | 60-140 | 13-JAN-20 |
| F4 (C34-C50)                     |              |             |                           | 108.6  |           | %     |     | 60-140 | 13-JAN-20 |
| MOISTURE-WT                      | :            | Soil        |                           |        |           |       |     |        |           |
| Batch R4                         | 966763       |             |                           |        |           |       |     |        |           |
| <b>WG3255763-3</b><br>% Moisture | DUP          |             | <b>L2404428-2</b><br>10.5 | 11.1   |           | %     | 5.3 | 20     | 11-JAN-20 |
| WG3255763-2<br>% Moisture        | LCS          |             |                           | 100.0  |           | %     |     | 90-110 | 11-JAN-20 |
| <b>WG3255763-1</b><br>% Moisture | МВ           |             |                           | <0.25  |           | %     |     | 0.25   | 11-JAN-20 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                   | Matrix | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------|--------|-------------|---------|-----------|-------|-----|--------|-----------|
| PAH-511-WT             | Soil   |             |         |           |       |     |        |           |
| Batch R4968474         |        |             |         |           |       |     |        |           |
| WG3255801-3 DUP        |        | WG3255801-5 |         |           | ,     |     |        |           |
| 1-Methylnaphthalene    |        | <0.030      | <0.030  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| 2-Methylnaphthalene    |        | <0.030      | <0.030  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Acenaphthene           |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Acenaphthylene         |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Anthracene             |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Benzo(a)anthracene     |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Benzo(a)pyrene         |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Benzo(b)fluoranthene   |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Benzo(g,h,i)perylene   |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Benzo(k)fluoranthene   |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Chrysene               |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Dibenzo(ah)anthracene  |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Fluoranthene           |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Fluorene               |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Indeno(1,2,3-cd)pyrene |        | < 0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Naphthalene            |        | <0.013      | <0.013  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Phenanthrene           |        | <0.046      | <0.046  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Pyrene                 |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| WG3255801-2 LCS        |        |             |         |           |       |     |        |           |
| 1-Methylnaphthalene    |        |             | 102.3   |           | %     |     | 50-140 | 14-JAN-20 |
| 2-Methylnaphthalene    |        |             | 97.7    |           | %     |     | 50-140 | 14-JAN-20 |
| Acenaphthene           |        |             | 107.8   |           | %     |     | 50-140 | 14-JAN-20 |
| Acenaphthylene         |        |             | 110.6   |           | %     |     | 50-140 | 14-JAN-20 |
| Anthracene             |        |             | 114.1   |           | %     |     | 50-140 | 14-JAN-20 |
| Benzo(a)anthracene     |        |             | 118.8   |           | %     |     | 50-140 | 14-JAN-20 |
| Benzo(a)pyrene         |        |             | 112.8   |           | %     |     | 50-140 | 14-JAN-20 |
| Benzo(b)fluoranthene   |        |             | 111.6   |           | %     |     | 50-140 | 14-JAN-20 |
| Benzo(g,h,i)perylene   |        |             | 106.9   |           | %     |     | 50-140 | 14-JAN-20 |
| Benzo(k)fluoranthene   |        |             | 117.3   |           | %     |     | 50-140 | 14-JAN-20 |
| Chrysene               |        |             | 124.1   |           | %     |     | 50-140 | 14-JAN-20 |
| Dibenzo(ah)anthracene  |        |             | 110.1   |           | %     |     | 50-140 | 14-JAN-20 |
| Fluoranthene           |        |             | 112.8   |           | %     |     | 50-140 | 14-JAN-20 |
| Fluorene               |        |             | 109.7   |           | %     |     | 50-140 | 14-JAN-20 |
| İ                      |        |             |         |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                  | Matrix       | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------|--------------|-------------|---------|-----------|-------|-----|--------|-----------|
| PAH-511-WT                            | Soil         |             |         |           |       |     |        |           |
| Batch R4968474                        | ļ            |             |         |           |       |     |        |           |
| WG3255801-2 LCS                       | _            |             | 440.4   |           | 0/    |     |        |           |
| Indeno(1,2,3-cd)pyrene                | <del>)</del> |             | 113.1   |           | %     |     | 50-140 | 14-JAN-20 |
| Naphthalene                           |              |             | 98.6    |           | %     |     | 50-140 | 14-JAN-20 |
| Phenanthrene                          |              |             | 110.7   |           | %     |     | 50-140 | 14-JAN-20 |
| Pyrene                                |              |             | 112.4   |           | %     |     | 50-140 | 14-JAN-20 |
| WG3255801-1 MB<br>1-Methylnaphthalene |              |             | <0.030  |           | ug/g  |     | 0.03   | 14-JAN-20 |
| 2-Methylnaphthalene                   |              |             | <0.030  |           | ug/g  |     | 0.03   | 14-JAN-20 |
| Acenaphthene                          |              |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Acenaphthylene                        |              |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Anthracene                            |              |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Benzo(a)anthracene                    |              |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Benzo(a)pyrene                        |              |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Benzo(b)fluoranthene                  |              |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Benzo(g,h,i)perylene                  |              |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Benzo(k)fluoranthene                  |              |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Chrysene                              |              |             | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Dibenzo(ah)anthracene                 | Э            |             | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Fluoranthene                          |              |             | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Fluorene                              |              |             | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Indeno(1,2,3-cd)pyrene                | e            |             | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Naphthalene                           |              |             | < 0.013 |           | ug/g  |     | 0.013  | 14-JAN-20 |
| Phenanthrene                          |              |             | <0.046  |           | ug/g  |     | 0.046  | 14-JAN-20 |
| Pyrene                                |              |             | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Surrogate: 2-Fluorobiph               | henyl        |             | 90.1    |           | %     |     | 50-140 | 14-JAN-20 |
| Surrogate: p-Terphenyl                | l d14        |             | 86.9    |           | %     |     | 50-140 | 14-JAN-20 |
| WG3255801-4 MS                        |              | WG3255801-5 | ;       |           |       |     |        |           |
| 1-Methylnaphthalene                   |              |             | 102.9   |           | %     |     | 50-140 | 14-JAN-20 |
| 2-Methylnaphthalene                   |              |             | 99.1    |           | %     |     | 50-140 | 14-JAN-20 |
| Acenaphthene                          |              |             | 108.4   |           | %     |     | 50-140 | 14-JAN-20 |
| Acenaphthylene                        |              |             | 110.7   |           | %     |     | 50-140 | 14-JAN-20 |
| Anthracene                            |              |             | 109.7   |           | %     |     | 50-140 | 14-JAN-20 |
| Benzo(a)anthracene                    |              |             | 118.4   |           | %     |     | 50-140 | 14-JAN-20 |
| Benzo(a)pyrene                        |              |             | 113.4   |           | %     |     | 50-140 | 14-JAN-20 |
| Benzo(b)fluoranthene                  |              |             | 112.3   |           | %     |     | 50-140 | 14-JAN-20 |
|                                       |              |             |         |           |       |     |        |           |



Qualifier

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RPD

Limit

Analyzed

Units

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Matrix

Reference

Result

Contact: Michael Shiry

Test

|                                  |      |             |         | <u> </u> |           |              |        |           |
|----------------------------------|------|-------------|---------|----------|-----------|--------------|--------|-----------|
| PAH-511-WT                       | Soil |             |         |          |           |              |        |           |
| Batch R4968474<br>WG3255801-4 MS |      | WG3255801-5 |         |          |           |              |        |           |
| Benzo(g,h,i)perylene             |      |             | 107.0   |          | %         |              | 50-140 | 14-JAN-20 |
| Benzo(k)fluoranthene             |      |             | 117.2   |          | %         |              | 50-140 | 14-JAN-20 |
| Chrysene                         |      |             | 121.8   |          | %         |              | 50-140 | 14-JAN-20 |
| Dibenzo(ah)anthracene            |      |             | 115.0   |          | %         |              | 50-140 | 14-JAN-20 |
| Fluoranthene                     |      |             | 114.3   |          | %         |              | 50-140 | 14-JAN-20 |
| Fluorene                         |      |             | 111.0   |          | %         |              | 50-140 | 14-JAN-20 |
| Indeno(1,2,3-cd)pyrene           |      |             | 116.6   |          | %         |              | 50-140 | 14-JAN-20 |
| Naphthalene                      |      |             | 99.8    |          | %         |              | 50-140 | 14-JAN-20 |
| Phenanthrene                     |      |             | 110.8   |          | %         |              | 50-140 | 14-JAN-20 |
| Pyrene                           |      |             | 112.4   |          | %         |              | 50-140 | 14-JAN-20 |
| VOC-511-HS-WT                    | Soil |             |         |          |           |              |        |           |
| Batch R4967521                   |      |             |         |          |           |              |        |           |
| WG3255867-4 DUP                  |      | WG3255867-3 | 0.050   | 000 114  |           | <b>N</b> 1/A | 40     |           |
| 1,1,1,2-Tetrachloroethar         |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,1,2,2-Tetrachloroethar         | ne   | <0.050      | <0.050  | RPD-NA   | ug/g<br>, | N/A          | 40     | 14-JAN-20 |
| 1,1,1-Trichloroethane            |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,1,2-Trichloroethane            |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,1-Dichloroethane               |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,1-Dichloroethylene             |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,2-Dibromoethane                |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,2-Dichlorobenzene              |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,2-Dichloroethane               |      | <0.050      | < 0.050 | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,2-Dichloropropane              |      | <0.050      | < 0.050 | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,3-Dichlorobenzene              |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| 1,4-Dichlorobenzene              |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| Acetone                          |      | <0.50       | <0.50   | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| Benzene                          |      | <0.0068     | <0.0068 | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| Bromodichloromethane             |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| Bromoform                        |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| Bromomethane                     |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| Carbon tetrachloride             |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| Chlorobenzene                    |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
| Chloroform                       |      | <0.050      | <0.050  | RPD-NA   | ug/g      | N/A          | 40     | 14-JAN-20 |
|                                  |      |             |         |          | -         |              |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test Ma                    | trix Reference | Result  | Qualifier | Units     | RPD | Limit  | Analyzed  |
|----------------------------|----------------|---------|-----------|-----------|-----|--------|-----------|
| VOC-511-HS-WT So           | pil            |         |           |           |     |        |           |
| Batch R4967521             |                |         |           |           |     |        |           |
| WG3255867-4 DUP            | WG325586       |         |           | ,         |     |        |           |
| cis-1,2-Dichloroethylene   | <0.050         | <0.050  | RPD-NA    | ug/g<br>, | N/A | 40     | 14-JAN-20 |
| cis-1,3-Dichloropropene    | <0.030         | <0.030  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Dibromochloromethane       | <0.050         | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Dichlorodifluoromethane    | <0.050         | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Ethylbenzene               | <0.018         | <0.018  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| n-Hexane                   | <0.050         | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Methylene Chloride         | <0.050         | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| MTBE                       | <0.050         | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| m+p-Xylenes                | <0.030         | <0.030  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Methyl Ethyl Ketone        | <0.50          | <0.50   | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Methyl Isobutyl Ketone     | <0.50          | <0.50   | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| o-Xylene                   | <0.020         | <0.020  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Styrene                    | <0.050         | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Tetrachloroethylene        | <0.050         | < 0.050 | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Toluene                    | <0.080         | <0.080  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| trans-1,2-Dichloroethylene | <0.050         | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| trans-1,3-Dichloropropene  | <0.030         | < 0.030 | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Trichloroethylene          | <0.010         | <0.010  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Trichlorofluoromethane     | <0.050         | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| Vinyl chloride             | <0.020         | <0.020  | RPD-NA    | ug/g      | N/A | 40     | 14-JAN-20 |
| WG3255867-2 LCS            |                |         |           |           |     |        |           |
| 1,1,1,2-Tetrachloroethane  |                | 91.9    |           | %         |     | 60-130 | 14-JAN-20 |
| 1,1,2,2-Tetrachloroethane  |                | 99.7    |           | %         |     | 60-130 | 14-JAN-20 |
| 1,1,1-Trichloroethane      |                | 90.0    |           | %         |     | 60-130 | 14-JAN-20 |
| 1,1,2-Trichloroethane      |                | 95.7    |           | %         |     | 60-130 | 14-JAN-20 |
| 1,1-Dichloroethane         |                | 97.3    |           | %         |     | 60-130 | 14-JAN-20 |
| 1,1-Dichloroethylene       |                | 87.7    |           | %         |     | 60-130 | 14-JAN-20 |
| 1,2-Dibromoethane          |                | 89.4    |           | %         |     | 70-130 | 14-JAN-20 |
| 1,2-Dichlorobenzene        |                | 91.0    |           | %         |     | 70-130 | 14-JAN-20 |
| 1,2-Dichloroethane         |                | 97.8    |           | %         |     | 60-130 | 14-JAN-20 |
| 1,2-Dichloropropane        |                | 95.3    |           | %         |     | 70-130 | 14-JAN-20 |
| 1,3-Dichlorobenzene        |                | 88.9    |           | %         |     | 70-130 | 14-JAN-20 |
| 1,4-Dichlorobenzene        |                | 88.6    |           | %         |     | 70-130 | 14-JAN-20 |



Workorder: L2404428 Report Date: 15-JAN-20 Page 6 of 15

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                       | Matrix | Reference | Result        | Qualifier | Units        | RPD | Limit  | Analyzed               |
|--------------------------------------------|--------|-----------|---------------|-----------|--------------|-----|--------|------------------------|
| VOC-511-HS-WT                              | Soil   |           |               |           |              |     |        |                        |
| Batch R49675                               | 521    |           |               |           |              |     |        |                        |
| WG3255867-2 LC                             | S      |           |               |           | 0.4          |     |        |                        |
| Acetone                                    |        |           | 116.1         |           | %            |     | 60-140 | 14-JAN-20              |
| Benzene                                    |        |           | 95.4          |           | %            |     | 70-130 | 14-JAN-20              |
| Bromodichlorometha                         | ane    |           | 95.3          |           | %            |     | 50-140 | 14-JAN-20              |
| Bromoform                                  |        |           | 95.0          |           | %            |     | 70-130 | 14-JAN-20              |
| Bromomethane                               |        |           | 76.1          |           | %            |     | 50-140 | 14-JAN-20              |
| Carbon tetrachloride                       |        |           | 89.2          |           | %            |     | 70-130 | 14-JAN-20              |
| Chlorobenzene                              |        |           | 91.0          |           | %            |     | 70-130 | 14-JAN-20              |
| Chloroform                                 |        |           | 94.3          |           | %            |     | 70-130 | 14-JAN-20              |
| cis-1,2-Dichloroethyl                      |        |           | 89.5          |           | %            |     | 70-130 | 14-JAN-20              |
| cis-1,3-Dichloroprop                       |        |           | 92.1          |           | %            |     | 70-130 | 14-JAN-20              |
| Dibromochlorometha                         |        |           | 93.5          |           | %            |     | 60-130 | 14-JAN-20              |
| Dichlorodifluorometh                       | nane   |           | 64.9          |           | %            |     | 50-140 | 14-JAN-20              |
| Ethylbenzene                               |        |           | 90.9          |           | %            |     | 70-130 | 14-JAN-20              |
| n-Hexane                                   |        |           | 84.0          |           | %            |     | 70-130 | 14-JAN-20              |
| Methylene Chloride                         |        |           | 92.4          |           | %            |     | 70-130 | 14-JAN-20              |
| MTBE                                       |        |           | 92.9          |           | %            |     | 70-130 | 14-JAN-20              |
| m+p-Xylenes                                |        |           | 90.3          |           | %            |     | 70-130 | 14-JAN-20              |
| Methyl Ethyl Ketone                        |        |           | 102.3         |           | %            |     | 60-140 | 14-JAN-20              |
| Methyl Isobutyl Ketor                      | ne     |           | 108.0         |           | %            |     | 60-140 | 14-JAN-20              |
| o-Xylene                                   |        |           | 90.9          |           | %            |     | 70-130 | 14-JAN-20              |
| Styrene                                    |        |           | 90.8          |           | %            |     | 70-130 | 14-JAN-20              |
| Tetrachloroethylene                        |        |           | 87.0          |           | %            |     | 60-130 | 14-JAN-20              |
| Toluene                                    |        |           | 92.5          |           | %            |     | 70-130 | 14-JAN-20              |
| trans-1,2-Dichloroeth                      | nylene |           | 90.7          |           | %            |     | 60-130 | 14-JAN-20              |
| trans-1,3-Dichloropro                      | opene  |           | 91.2          |           | %            |     | 70-130 | 14-JAN-20              |
| Trichloroethylene                          |        |           | 88.5          |           | %            |     | 60-130 | 14-JAN-20              |
| Trichlorofluorometha                       | ane    |           | 83.6          |           | %            |     | 50-140 | 14-JAN-20              |
| Vinyl chloride                             |        |           | 92.7          |           | %            |     | 60-140 | 14-JAN-20              |
| <b>WG3255867-1 ME</b> 1,1,1,2-Tetrachloroe |        |           | <0.050        |           | ug/g         |     | 0.05   | 14-JAN-20              |
| 1,1,2,2-Tetrachloroe                       |        |           | <0.050        |           | ug/g         |     | 0.05   | 14-JAN-20<br>14-JAN-20 |
| 1,1,1-Trichloroethan                       |        |           | <0.050        |           | ug/g         |     | 0.05   | 14-JAN-20              |
| 1,1,2-Trichloroethan                       |        |           | <0.050        |           | ug/g         |     | 0.05   | 14-JAN-20              |
| 1,1-Dichloroethane                         | •      |           | <0.050        |           | ug/g<br>ug/g |     | 0.05   |                        |
| 1, 1-Dictiliorde triatile                  |        |           | <b>\0.030</b> |           | ug/g         |     | 0.00   | 14-JAN-20              |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                     | Matrix | Reference | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------|--------|-----------|---------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT            | Soil   |           |         |           |       |     |        |           |
| Batch R4967521           |        |           |         |           |       |     |        |           |
| WG3255867-1 MB           |        |           | .0.050  |           |       |     | 0.05   |           |
| 1,1-Dichloroethylene     |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,2-Dibromoethane        |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,2-Dichlorobenzene      |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,2-Dichloroethane       |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,2-Dichloropropane      |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,3-Dichlorobenzene      |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,4-Dichlorobenzene      |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Acetone                  |        |           | <0.50   |           | ug/g  |     | 0.5    | 14-JAN-20 |
| Benzene                  |        |           | <0.0068 |           | ug/g  |     | 0.0068 | 14-JAN-20 |
| Bromodichloromethane     |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Bromoform                |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Bromomethane             |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Carbon tetrachloride     |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Chlorobenzene            |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Chloroform               |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| cis-1,2-Dichloroethylene | )      |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| cis-1,3-Dichloropropene  | •      |           | < 0.030 |           | ug/g  |     | 0.03   | 14-JAN-20 |
| Dibromochloromethane     |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Dichlorodifluoromethane  | Э      |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Ethylbenzene             |        |           | <0.018  |           | ug/g  |     | 0.018  | 14-JAN-20 |
| n-Hexane                 |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Methylene Chloride       |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| MTBE                     |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| m+p-Xylenes              |        |           | < 0.030 |           | ug/g  |     | 0.03   | 14-JAN-20 |
| Methyl Ethyl Ketone      |        |           | <0.50   |           | ug/g  |     | 0.5    | 14-JAN-20 |
| Methyl Isobutyl Ketone   |        |           | <0.50   |           | ug/g  |     | 0.5    | 14-JAN-20 |
| o-Xylene                 |        |           | <0.020  |           | ug/g  |     | 0.02   | 14-JAN-20 |
| Styrene                  |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Tetrachloroethylene      |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Toluene                  |        |           | <0.080  |           | ug/g  |     | 0.08   | 14-JAN-20 |
| trans-1,2-Dichloroethyle | ne     |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| trans-1,3-Dichloroprope  |        |           | <0.030  |           | ug/g  |     | 0.03   | 14-JAN-20 |
| Trichloroethylene        |        |           | <0.010  |           | ug/g  |     | 0.01   | 14-JAN-20 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                  | Matrix         | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------|----------------|-------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                         | Soil           |             |        |           |       |     |        |           |
| Batch R4967                           | 521            |             |        |           |       |     |        |           |
| WG3255867-1 MI<br>Trichlorofluorometh |                |             | <0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Vinyl chloride                        |                |             | <0.020 |           | ug/g  |     | 0.02   | 14-JAN-20 |
| Surrogate: 1,4-Diflu                  | orobenzene     |             | 103.5  |           | %     |     | 50-140 | 14-JAN-20 |
| Surrogate: 4-Bromo                    | ofluorobenzene |             | 91.9   |           | %     |     | 50-140 | 14-JAN-20 |
| <b>WG3255867-7 M</b> 3                | -              | WG3255867-9 | 94.9   |           | %     |     | 50-140 | 14-JAN-20 |
| 1,1,2,2-Tetrachloroe                  | ethane         |             | 100.1  |           | %     |     | 50-140 | 14-JAN-20 |
| 1,1,1-Trichloroethar                  | ne             |             | 93.1   |           | %     |     | 50-140 | 14-JAN-20 |
| 1,1,2-Trichloroethar                  | ne             |             | 97.6   |           | %     |     | 50-140 | 14-JAN-20 |
| 1,1-Dichloroethane                    |                |             | 100.1  |           | %     |     | 50-140 | 14-JAN-20 |
| 1,1-Dichloroethylen                   | е              |             | 91.3   |           | %     |     | 50-140 | 14-JAN-20 |
| 1,2-Dibromoethane                     |                |             | 90.9   |           | %     |     | 50-140 | 14-JAN-20 |
| 1,2-Dichlorobenzen                    | e              |             | 92.7   |           | %     |     | 50-140 | 14-JAN-20 |
| 1,2-Dichloroethane                    |                |             | 99.5   |           | %     |     | 50-140 | 14-JAN-20 |
| 1,2-Dichloropropane                   | е              |             | 97.7   |           | %     |     | 50-140 | 14-JAN-20 |
| 1,3-Dichlorobenzen                    | e              |             | 90.2   |           | %     |     | 50-140 | 14-JAN-20 |
| 1,4-Dichlorobenzen                    | e              |             | 89.8   |           | %     |     | 50-140 | 14-JAN-20 |
| Acetone                               |                |             | 118.0  |           | %     |     | 50-140 | 14-JAN-20 |
| Benzene                               |                |             | 97.9   |           | %     |     | 50-140 | 14-JAN-20 |
| Bromodichlorometh                     | nane           |             | 96.8   |           | %     |     | 50-140 | 14-JAN-20 |
| Bromoform                             |                |             | 95.5   |           | %     |     | 50-140 | 14-JAN-20 |
| Bromomethane                          |                |             | 78.1   |           | %     |     | 50-140 | 14-JAN-20 |
| Carbon tetrachloride                  | е              |             | 92.4   |           | %     |     | 50-140 | 14-JAN-20 |
| Chlorobenzene                         |                |             | 92.9   |           | %     |     | 50-140 | 14-JAN-20 |
| Chloroform                            |                |             | 96.8   |           | %     |     | 50-140 | 14-JAN-20 |
| cis-1,2-Dichloroethy                  | /lene          |             | 91.2   |           | %     |     | 50-140 | 14-JAN-20 |
| cis-1,3-Dichloroprop                  | pene           |             | 88.9   |           | %     |     | 50-140 | 14-JAN-20 |
| Dibromochlorometh                     | nane           |             | 95.2   |           | %     |     | 50-140 | 14-JAN-20 |
| Dichlorodifluoromet                   | hane           |             | 72.9   |           | %     |     | 50-140 | 14-JAN-20 |
| Ethylbenzene                          |                |             | 94.0   |           | %     |     | 50-140 | 14-JAN-20 |
| n-Hexane                              |                |             | 89.1   |           | %     |     | 50-140 | 14-JAN-20 |
| Methylene Chloride                    |                |             | 94.5   |           | %     |     | 50-140 | 14-JAN-20 |
| MTBE                                  |                |             | 94.4   |           | %     |     | 50-140 | 14-JAN-20 |
| m+p-Xylenes                           |                |             | 92.6   |           | %     |     | 50-140 | 14-JAN-20 |



Qualifier

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RPD

Limit

Analyzed

Units

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Matrix

Reference

Result

Contact: Michael Shiry

Test

| lest                     | Manix | Reference   | Nesuit  | Qualifier | Units        | KFD | Lillit | Allalyzeu              |
|--------------------------|-------|-------------|---------|-----------|--------------|-----|--------|------------------------|
| VOC-511-HS-WT            | Soil  |             |         |           |              |     |        |                        |
| Batch R4967521           |       |             |         |           |              |     |        |                        |
| WG3255867-7 MS           |       | WG3255867-9 |         |           |              |     |        |                        |
| Methyl Ethyl Ketone      |       |             | 100.4   |           | %            |     | 50-140 | 14-JAN-20              |
| Methyl Isobutyl Ketone   |       |             | 105.7   |           | %            |     | 50-140 | 14-JAN-20              |
| o-Xylene                 |       |             | 93.7    |           | %            |     | 50-140 | 14-JAN-20              |
| Styrene                  |       |             | 91.8    |           | %            |     | 50-140 | 14-JAN-20              |
| Tetrachloroethylene      |       |             | 88.4    |           | %            |     | 50-140 | 14-JAN-20              |
| Toluene                  |       |             | 95.7    |           | %            |     | 50-140 | 14-JAN-20              |
| trans-1,2-Dichloroethyle | ene   |             | 91.8    |           | %            |     | 50-140 | 14-JAN-20              |
| trans-1,3-Dichloroprope  | ene   |             | 89.5    |           | %            |     | 50-140 | 14-JAN-20              |
| Trichloroethylene        |       |             | 89.3    |           | %            |     | 50-140 | 14-JAN-20              |
| Trichlorofluoromethane   |       |             | 88.0    |           | %            |     | 50-140 | 14-JAN-20              |
| Vinyl chloride           |       |             | 97.4    |           | %            |     | 50-140 | 14-JAN-20              |
| VOC-ROU-HS-WT            | Soil  |             |         |           |              |     |        |                        |
| Batch R4967521           |       |             |         |           |              |     |        |                        |
| WG3255867-4 DUP          |       | WG3255867-3 | 3       |           |              |     |        |                        |
| 1,1,1,2-Tetrachloroetha  | ine   | <0.050      | <0.050  | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,1,2,2-Tetrachloroetha  | ine   | <0.050      | <0.050  | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,1,1-Trichloroethane    |       | <0.050      | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,1,2-Trichloroethane    |       | <0.050      | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,1-Dichloroethane       |       | <0.050      | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,1-Dichloroethylene     |       | < 0.050     | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,2-Dibromoethane        |       | <0.050      | <0.050  | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,2-Dichlorobenzene      |       | <0.050      | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,2-Dichloroethane       |       | <0.050      | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,2-Dichloropropane      |       | <0.050      | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,3-Dichlorobenzene      |       | <0.050      | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 1,4-Dichlorobenzene      |       | <0.050      | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| 2-Hexanone               |       | <0.50       | <0.50   | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| Acetone                  |       | <0.50       | <0.50   | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| Benzene                  |       | <0.0068     | <0.0068 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| Bromodichloromethane     | 1     | <0.050      | <0.050  | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20<br>14-JAN-20 |
| Bromoform                | •     | <0.050      | <0.050  |           | ug/g<br>ug/g |     |        |                        |
|                          |       |             |         | RPD-NA    |              | N/A | 40     | 14-JAN-20              |
| Bromomethane             |       | <0.050      | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |
| Carbon Disulfide         |       | < 0.050     | < 0.050 | RPD-NA    | ug/g         | N/A | 40     | 14-JAN-20              |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                      | Matrix | Reference  | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------|--------|------------|---------|-----------|-------|-----|--------|-----------|
| VOC-ROU-HS-WT             | Soil   |            |         |           |       |     |        |           |
| Batch R4967521            |        |            |         |           |       |     |        |           |
| WG3255867-4 DUP           |        | WG3255867- |         |           | ,     |     |        |           |
| Carbon tetrachloride      |        | <0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Chlorobenzene             |        | <0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Chloroethane              |        | <0.020     | <0.020  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Chloroform                |        | <0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Chloromethane             |        | <0.020     | <0.020  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| cis-1,2-Dichloroethylene  |        | <0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| cis-1,3-Dichloropropene   |        | <0.030     | <0.030  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Dibromochloromethane      |        | <0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Dibromomethane            |        | <0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Dichlorodifluoromethane   | •      | <0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Dichloromethane           |        | <0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Ethylbenzene              |        | <0.018     | <0.018  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| MTBE                      |        | <0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| m+p-Xylenes               |        | <0.030     | < 0.030 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Methyl Ethyl Ketone       |        | <0.50      | < 0.50  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Methyl Isobutyl Ketone    |        | <0.50      | <0.50   | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| n-Hexane                  |        | <0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| o-Xylene                  |        | <0.020     | <0.020  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Styrene                   |        | <0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Tetrachloroethylene       |        | <0.050     | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Toluene                   |        | <0.080     | <0.080  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| trans-1,2-Dichloroethyler | ne     | <0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| trans-1,3-Dichloroproper  | ne     | <0.030     | < 0.030 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Trichloroethylene         |        | <0.010     | <0.010  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Trichlorofluoromethane    |        | <0.050     | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| Vinyl chloride            |        | <0.020     | <0.020  | RPD-NA    | ug/g  | N/A | 40     | 14-JAN-20 |
| WG3255867-2 LCS           |        |            |         |           |       |     |        |           |
| 1,1,1,2-Tetrachloroethan  | ne     |            | 91.9    |           | %     |     | 70-130 | 14-JAN-20 |
| 1,1,2,2-Tetrachloroethan  | ne     |            | 99.7    |           | %     |     | 70-130 | 14-JAN-20 |
| 1,1,1-Trichloroethane     |        |            | 90.0    |           | %     |     | 70-130 | 14-JAN-20 |
| 1,1,2-Trichloroethane     |        |            | 95.7    |           | %     |     | 70-130 | 14-JAN-20 |
| 1,1-Dichloroethane        |        |            | 97.3    |           | %     |     | 70-130 | 14-JAN-20 |
| 1,1-Dichloroethylene      |        |            | 87.7    |           | %     |     | 70-130 | 14-JAN-20 |
|                           |        |            |         |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                         | Matrix | Reference | Result       | Qualifier | Units | RPD | Limit            | Analyzed               |
|----------------------------------------------|--------|-----------|--------------|-----------|-------|-----|------------------|------------------------|
| VOC-ROU-HS-WT                                | Soil   |           |              |           |       |     |                  |                        |
| Batch R4967521                               |        |           |              |           |       |     |                  |                        |
| WG3255867-2 LCS<br>1,2-Dibromoethane         |        |           | 89.4         |           | %     |     | 70-130           | 44 JAN 00              |
| 1,2-Dichlorobenzene                          |        |           | 91.0         |           | %     |     | 70-130<br>70-130 | 14-JAN-20<br>14-JAN-20 |
| 1,2-Dichloroethane                           |        |           | 97.8         |           | %     |     | 70-130<br>70-130 | 14-JAN-20<br>14-JAN-20 |
| 1,2-Dichloropropane                          |        |           | 95.3         |           | %     |     | 70-130<br>70-130 | 14-JAN-20<br>14-JAN-20 |
| 1,3-Dichlorobenzene                          |        |           | 88.9         |           | %     |     | 70-130           | 14-JAN-20<br>14-JAN-20 |
| 1,4-Dichlorobenzene                          |        |           | 88.6         |           | %     |     | 70-130           |                        |
| 2-Hexanone                                   |        |           | 106.8        |           | %     |     |                  | 14-JAN-20              |
| Acetone                                      |        |           | 116.1        |           | %     |     | 70-130           | 14-JAN-20              |
| Benzene                                      |        |           | 95.4         |           | %     |     | 60-140           | 14-JAN-20              |
| Bromodichloromethane                         |        |           | 95.4<br>95.3 |           | %     |     | 70-130           | 14-JAN-20              |
| Bromoform                                    |        |           |              |           | %     |     | 60-140           | 14-JAN-20              |
| Bromomethane                                 |        |           | 95.0<br>76.1 |           | %     |     | 70-130           | 14-JAN-20              |
| Carbon Disulfide                             |        |           | 90.6         |           | %     |     | 60-140           | 14-JAN-20              |
| Carbon tetrachloride                         |        |           | 89.2         |           | %     |     | 70-130           | 14-JAN-20              |
| Chlorobenzene                                |        |           | 91.0         |           | %     |     | 70-130           | 14-JAN-20              |
| Chloroethane                                 |        |           | 98.0         |           | %     |     | 70-130           | 14-JAN-20              |
| Chloroform                                   |        |           | 94.3         |           | %     |     | 70-130           | 14-JAN-20              |
| Chloromethane                                |        |           | 94.3<br>86.6 |           | %     |     | 70-130           | 14-JAN-20              |
|                                              |        |           | 89.5         |           |       |     | 60-140           | 14-JAN-20              |
| cis-1,2-Dichloroethylene                     |        |           | 92.1         |           | %     |     | 70-130           | 14-JAN-20              |
| cis-1,3-Dichloropropene Dibromochloromethane |        |           |              |           |       |     | 60-140           | 14-JAN-20              |
| Dibromocnioromethane                         |        |           | 93.5         |           | %     |     | 60-140           | 14-JAN-20              |
| Dichlorodifluoromethane                      |        |           | 92.4         |           | %     |     | 70-130           | 14-JAN-20              |
|                                              | ;      |           | 64.9         |           | %     |     | 50-140           | 14-JAN-20              |
| Dichloromethane                              |        |           | 92.4         |           | %     |     | 70-130           | 14-JAN-20              |
| Ethylbenzene                                 |        |           | 90.9         |           | %     |     | 70-130           | 14-JAN-20              |
| MTBE                                         |        |           | 92.9         |           | %     |     | 70-130           | 14-JAN-20              |
| m+p-Xylenes                                  |        |           | 90.3         |           | %     |     | 70-130           | 14-JAN-20              |
| Methyl Ethyl Ketone                          |        |           | 102.3        |           | %     |     | 60-140           | 14-JAN-20              |
| Methyl Isobutyl Ketone                       |        |           | 108.0        |           | %     |     | 60-140           | 14-JAN-20              |
| n-Hexane                                     |        |           | 84.0         |           | %     |     | 70-130           | 14-JAN-20              |
| o-Xylene                                     |        |           | 90.9         |           | %     |     | 70-130           | 14-JAN-20              |
| Styrene                                      |        |           | 90.8         |           | %     |     | 70-130           | 14-JAN-20              |
| Tetrachloroethylene                          |        |           | 87.0         |           | %     |     | 70-130           | 14-JAN-20              |



Workorder: L2404428 Report Date: 15-JAN-20 Page 12 of 15

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                       | Matrix | Reference | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------|--------|-----------|---------|-----------|-------|-----|--------|-----------|
| VOC-ROU-HS-WT                              | Soil   |           |         |           |       |     |        |           |
| Batch R4967521                             |        |           |         |           |       |     |        |           |
| WG3255867-2 LCS                            |        |           |         |           |       |     |        |           |
| Toluene                                    |        |           | 92.5    |           | %     |     | 70-130 | 14-JAN-20 |
| trans-1,2-Dichloroethyler                  |        |           | 90.7    |           | %     |     | 70-130 | 14-JAN-20 |
| trans-1,3-Dichloroproper                   | ne     |           | 91.2    |           | %     |     | 60-140 | 14-JAN-20 |
| Trichloroethylene                          |        |           | 88.5    |           | %     |     | 70-130 | 14-JAN-20 |
| Trichlorofluoromethane                     |        |           | 83.6    |           | %     |     | 60-140 | 14-JAN-20 |
| Vinyl chloride                             |        |           | 92.7    |           | %     |     | 60-140 | 14-JAN-20 |
| WG3255867-1 MB<br>1,1,1,2-Tetrachloroethan | ie     |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,1,2,2-Tetrachloroethan                   | ie     |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,1,1-Trichloroethane                      |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,1,2-Trichloroethane                      |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,1-Dichloroethane                         |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,1-Dichloroethylene                       |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,2-Dibromoethane                          |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,2-Dichlorobenzene                        |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,2-Dichloroethane                         |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,2-Dichloropropane                        |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,3-Dichlorobenzene                        |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 1,4-Dichlorobenzene                        |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| 2-Hexanone                                 |        |           | <0.50   |           | ug/g  |     | 0.5    | 14-JAN-20 |
| Acetone                                    |        |           | <0.50   |           | ug/g  |     | 0.5    | 14-JAN-20 |
| Benzene                                    |        |           | <0.0068 |           | ug/g  |     | 0.0068 | 14-JAN-20 |
| Bromodichloromethane                       |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Bromoform                                  |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Bromomethane                               |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Carbon Disulfide                           |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Carbon tetrachloride                       |        |           | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Chlorobenzene                              |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Chloroethane                               |        |           | <0.020  |           | ug/g  |     | 0.02   | 14-JAN-20 |
| Chloroform                                 |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Chloromethane                              |        |           | <0.020  |           | ug/g  |     | 0.02   | 14-JAN-20 |
| cis-1,2-Dichloroethylene                   |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| cis-1,3-Dichloropropene                    |        |           | <0.030  |           | ug/g  |     | 0.03   | 14-JAN-20 |
| Dibromochloromethane                       |        |           | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |



Workorder: L2404428 Report Date: 15-JAN-20 Page 13 of 15

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                      | Matrix  | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------|---------|-------------|---------|-----------|-------|-----|--------|-----------|
| VOC-ROU-HS-WT             | Soil    |             |         |           |       |     |        |           |
| Batch R4967521            |         |             |         |           |       |     |        |           |
| WG3255867-1 MB            |         |             | 0.050   |           |       |     | 0.05   |           |
| Dibromomethane            |         |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Dichlorodifluoromethane   |         |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Dichloromethane           |         |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Ethylbenzene              |         |             | <0.018  |           | ug/g  |     | 0.018  | 14-JAN-20 |
| MTBE                      |         |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| m+p-Xylenes               |         |             | <0.030  |           | ug/g  |     | 0.03   | 14-JAN-20 |
| Methyl Ethyl Ketone       |         |             | <0.50   |           | ug/g  |     | 0.5    | 14-JAN-20 |
| Methyl Isobutyl Ketone    |         |             | <0.50   |           | ug/g  |     | 0.5    | 14-JAN-20 |
| n-Hexane                  |         |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| o-Xylene                  |         |             | <0.020  |           | ug/g  |     | 0.02   | 14-JAN-20 |
| Styrene                   |         |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Tetrachloroethylene       |         |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Toluene                   |         |             | <0.080  |           | ug/g  |     | 0.08   | 14-JAN-20 |
| trans-1,2-Dichloroethylen |         |             | <0.050  |           | ug/g  |     | 0.05   | 14-JAN-20 |
| trans-1,3-Dichloropropen  | е       |             | < 0.030 |           | ug/g  |     | 0.03   | 14-JAN-20 |
| Trichloroethylene         |         |             | <0.010  |           | ug/g  |     | 0.01   | 14-JAN-20 |
| Trichlorofluoromethane    |         |             | < 0.050 |           | ug/g  |     | 0.05   | 14-JAN-20 |
| Vinyl chloride            |         |             | <0.020  |           | ug/g  |     | 0.02   | 14-JAN-20 |
| Surrogate: 1,4-Difluorobe | enzene  |             | 103.5   |           | %     |     | 70-130 | 14-JAN-20 |
| Surrogate: 4-Bromofluoro  | benzene |             | 91.9    |           | %     |     | 70-130 | 14-JAN-20 |
| WG3255867-7 MS            |         | WG3255867-9 |         |           |       |     |        |           |
| 1,1,1,2-Tetrachloroethan  |         |             | 94.9    |           | %     |     | 50-150 | 14-JAN-20 |
| 1,1,2,2-Tetrachloroethane | е       |             | 100.1   |           | %     |     | 50-150 | 14-JAN-20 |
| 1,1,1-Trichloroethane     |         |             | 93.1    |           | %     |     | 50-150 | 14-JAN-20 |
| 1,1,2-Trichloroethane     |         |             | 97.6    |           | %     |     | 50-150 | 14-JAN-20 |
| 1,1-Dichloroethane        |         |             | 100.1   |           | %     |     | 50-150 | 14-JAN-20 |
| 1,1-Dichloroethylene      |         |             | 91.3    |           | %     |     | 50-150 | 14-JAN-20 |
| 1,2-Dibromoethane         |         |             | 90.9    |           | %     |     | 50-150 | 14-JAN-20 |
| 1,2-Dichlorobenzene       |         |             | 92.7    |           | %     |     | 50-150 | 14-JAN-20 |
| 1,2-Dichloroethane        |         |             | 99.5    |           | %     |     | 50-150 | 14-JAN-20 |
| 1,2-Dichloropropane       |         |             | 97.7    |           | %     |     | 50-150 | 14-JAN-20 |
| 1,3-Dichlorobenzene       |         |             | 90.2    |           | %     |     | 50-150 | 14-JAN-20 |
| 1,4-Dichlorobenzene       |         |             | 89.8    |           | %     |     | 50-150 | 14-JAN-20 |
| 2-Hexanone                |         |             | 106.0   |           | %     |     | 50-150 | 14-JAN-20 |



Workorder: L2404428 Report Date: 15-JAN-20 Page 14 of 15

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                     | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------|--------|-------------|--------|-----------|-------|-----|--------|-----------|
| VOC-ROU-HS-WT            | Soil   |             |        |           |       |     |        |           |
| Batch R4967521           |        |             |        |           |       |     |        |           |
| WG3255867-7 MS           |        | WG3255867-9 |        |           | 0/    |     |        |           |
| Acetone                  |        |             | 118.0  |           | %     |     | 50-150 | 14-JAN-20 |
| Benzene                  |        |             | 97.9   |           | %     |     | 50-150 | 14-JAN-20 |
| Bromodichloromethane     |        |             | 96.8   |           | %     |     | 50-150 | 14-JAN-20 |
| Bromoform                |        |             | 95.5   |           | %     |     | 50-150 | 14-JAN-20 |
| Bromomethane             |        |             | 78.1   |           | %     |     | 50-150 | 14-JAN-20 |
| Carbon Disulfide         |        |             | 91.1   |           | %     |     | 50-150 | 14-JAN-20 |
| Carbon tetrachloride     |        |             | 92.4   |           | %     |     | 50-150 | 14-JAN-20 |
| Chlorobenzene            |        |             | 92.9   |           | %     |     | 50-150 | 14-JAN-20 |
| Chloroethane             |        |             | 102.5  |           | %     |     | 50-150 | 14-JAN-20 |
| Chloroform               |        |             | 96.8   |           | %     |     | 50-150 | 14-JAN-20 |
| Chloromethane            |        |             | 91.0   |           | %     |     | 50-150 | 14-JAN-20 |
| cis-1,2-Dichloroethylene |        |             | 91.2   |           | %     |     | 50-150 | 14-JAN-20 |
| cis-1,3-Dichloropropene  |        |             | 88.9   |           | %     |     | 50-150 | 14-JAN-20 |
| Dibromochloromethane     |        |             | 95.2   |           | %     |     | 50-150 | 14-JAN-20 |
| Dibromomethane           |        |             | 92.8   |           | %     |     | 50-150 | 14-JAN-20 |
| Dichlorodifluoromethane  | )      |             | 72.9   |           | %     |     | 50-150 | 14-JAN-20 |
| Dichloromethane          |        |             | 94.5   |           | %     |     | 50-150 | 14-JAN-20 |
| Ethylbenzene             |        |             | 94.0   |           | %     |     | 50-150 | 14-JAN-20 |
| MTBE                     |        |             | 94.4   |           | %     |     | 50-150 | 14-JAN-20 |
| m+p-Xylenes              |        |             | 92.6   |           | %     |     | 50-150 | 14-JAN-20 |
| Methyl Ethyl Ketone      |        |             | 100.4  |           | %     |     | 50-150 | 14-JAN-20 |
| Methyl Isobutyl Ketone   |        |             | 105.7  |           | %     |     | 50-150 | 14-JAN-20 |
| n-Hexane                 |        |             | 89.1   |           | %     |     | 50-150 | 14-JAN-20 |
| o-Xylene                 |        |             | 93.7   |           | %     |     | 50-150 | 14-JAN-20 |
| Styrene                  |        |             | 91.8   |           | %     |     | 50-150 | 14-JAN-20 |
| Tetrachloroethylene      |        |             | 88.4   |           | %     |     | 50-150 | 14-JAN-20 |
| Toluene                  |        |             | 95.7   |           | %     |     | 50-150 | 14-JAN-20 |
| trans-1,2-Dichloroethyle | ne     |             | 91.8   |           | %     |     | 50-150 | 14-JAN-20 |
| trans-1,3-Dichloroprope  | ne     |             | 89.5   |           | %     |     | 50-150 | 14-JAN-20 |
| Trichloroethylene        |        |             | 89.3   |           | %     |     | 50-150 | 14-JAN-20 |
| Trichlorofluoromethane   |        |             | 88.0   |           | %     |     | 50-150 | 14-JAN-20 |
| Vinyl chloride           |        |             | 97.4   |           | %     |     | 50-150 | 14-JAN-20 |
|                          |        |             |        |           |       |     |        |           |

Workorder: L2404428 Report Date: 15-JAN-20

Client: CH2M HILL CANADA LIMITED Page 15 of 15

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: Michael Shiry

Ontact. Michael Shir

#### 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.

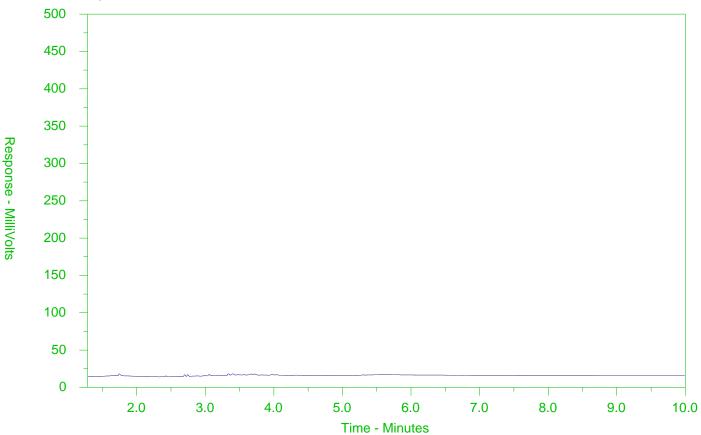
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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



ALS Sample ID: L2404428-1 Client Sample ID: MW112- 5.2-5.5



| <b>←</b> -F2- | →-         | —F3—→←—F4— | <b>&gt;</b>               |
|---------------|------------|------------|---------------------------|
| nC10          | nC16       | nC34       | nC50                      |
| 174°C         | 287°C      | 481°C      | 575°C                     |
| 346°F         | 549°F      | 898°F      | 1067⁰F                    |
| Gasolin       | e →        | ← Mot      | or Oils/Lube Oils/Grease- |
| <b>←</b>      | -Diesel/Je | et Fuels→  |                           |

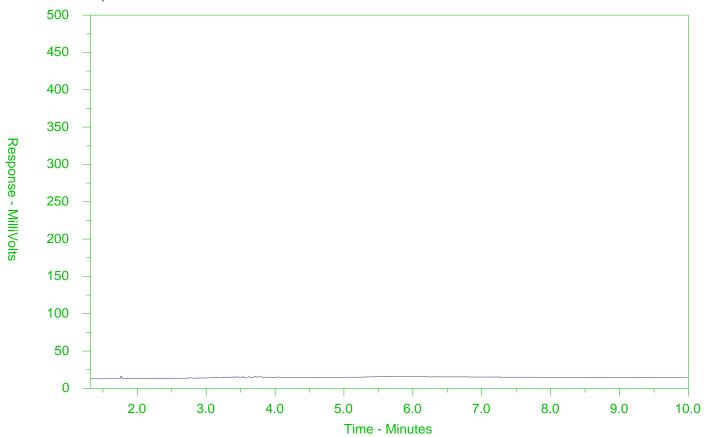
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2404428-2 Client Sample ID: MW112-7.25-7.5



| <b>←</b> -F2- | →-         | —F3—→←—F4— | <b>&gt;</b>               |
|---------------|------------|------------|---------------------------|
| nC10          | nC16       | nC34       | nC50                      |
| 174°C         | 287°C      | 481°C      | 575°C                     |
| 346°F         | 549°F      | 898°F      | 1067⁰F                    |
| Gasolin       | e →        | ← Mot      | or Oils/Lube Oils/Grease- |
| <b>←</b>      | -Diesel/Je | et 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.

# ALS Environmental

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

#### Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L2404428-COFC

coc Number 17 - 724135

ege o

www.alsglobal.com Report To Contact and company name below will appear on the final report Report Format / Distribution Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply) TOGODS ICHIZM [X] FOR VI EXCEL [X] HOW (DIGITAL) Select Report Format: Regular [R] Standard TAT if received by 3 pm - business days - no surcharges apply Company Michael Sow 4 day [P4-20%] Contact: Quality Control (QC) Report with Report Business day (E-100%) Compare Assuts to Criteria on Report - provide details below if box checked Phone: 3 day (P3-25%) Same Day, Weekend or Statutory holiday [E2-200% X EMAJL | MAIL | FAX 2 day [P2-50%] (Laboratory opening fees may apply) ] Select Distribution. Company address below will appear on the final report Editional Principles of the SE ESP YEAR. Victoria S. S. Suite 300 Street: Email 1 or Fax Michael Shiru@ 14 wbs w City/Province: Email 2 ed. taves @ iadabs.com for each that can not be performed according to the service level sciential, you will be contacted. N26 440 Postal Code Emails tania mccarthy@ acobs how Analysis Request Invoice To Same as Report To YES | NO Invoice Distribution Indicate Fittered (F). Preserved (P) or Fittered and Preserved (F/P) below Copy of Invoice with Report YES NO Select Invoice Distribution: EMAIL MAIL FAX Jacobs Fmall 1 or Fax Company: SE SE Accounts Priside Contact: Email 2 Project Information 1072980 ALS Account # / Quote #: AFE/Cost Carrier PO# Maint/Minor Code: Routing Code: PÖ / AFE: Requisitioner SAMPLES ON HOLD LSD. ocation. ALS Lah Work Order # (tab use only): Sampler: V. Petus ALS Contact: Sample Identification and/or Coordinates Date Time ALS Semple # Sample Type (lab use only) (This description will appear on the report) (dd-mmm-yy) (fith mm) 08-01-2020 HUS Sοi 19-01-20W 11:30 Soi SAMPLE COMPITION AS RECEIVED (lab use only) Special instructions / Specify Criteria to edd on report by clicking on the drop-down list below Drinking Water (DW) Samples' (client use) (electronic COC only) Frozen SIF Observations No Are samples taken from a Regulated DW System? Ice Packs Νo nes IXI  $\Box$ INITIAL COOLER TEMPERATURES \*C Are samples for human consumptions use? FINAL COOLER TEMPERATURES C SHIPMENT RELEASE (client use) INTIAL SHIPMENT RECEPTION (lab use only) FINAL SHIPMENT RECEPTION (lab use only) Received by: WHITE - LABORATORY COPY YELLOW - CLIENT COPY Failure to complete all portors of this form may delay enalyse. Please fill in this form LECIBLY. By the use of this form the user advisorables and agrees, with the Terms and Conditions as specified on the back page of the white - report exper-



CH2M HILL CANADA LIMITED ATTN: MICHAEL SHIRY

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Date Received: 20-JAN-20

Report Date: 24-JAN-20 11:06 (MT)

Version: FINAL

Client Phone: 519-579-3500

## Certificate of Analysis

Lab Work Order #: L2407279

Project P.O. #: **NOT SUBMITTED** 

Job Reference: CE751900 C of C Numbers: 17-826467

Legal Site Desc:

Account Manager

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L2407279 CONTD....

Page 2 of 6

| CE751900                               | ANALI                       | ICAL      | GUID   |       | KEPUK     | . I  | :        | Page 2<br>24-JAN-20 11: |  |
|----------------------------------------|-----------------------------|-----------|--------|-------|-----------|------|----------|-------------------------|--|
| Sample Details                         | Result Qualifier D.L. Units |           |        |       | A         |      |          |                         |  |
| Grouping Analyte                       | Result                      | dualifier | D.L.   | Units | Analyzed  |      | Guidelir | ne Limits               |  |
| L2407279-1 MW112-15.4-16'              |                             |           |        |       |           |      |          |                         |  |
| Sampled By: V. PETERS on 18-JAN-20 @ 1 | D:D(                        |           |        |       |           | #1   | #2       |                         |  |
| Matrix: SOIL                           |                             |           |        |       |           | #1   | #2       |                         |  |
| Physical Tests                         |                             |           |        |       |           |      |          |                         |  |
| % Moisture                             | 10.1                        |           | 0.25   | %     | 21-JAN-20 |      |          |                         |  |
| Volatile Organic Compounds             |                             |           |        |       |           |      |          |                         |  |
| Acetone                                | <0.50                       |           | 0.50   | ug/g  | 21-JAN-20 | 0.5  | 0.5      |                         |  |
| Benzene                                | <0.0068                     |           | 0.0068 | ug/g  | 21-JAN-20 | 0.02 | 0.02     |                         |  |
| Bromodichloromethane                   | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Bromoform                              | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Bromomethane                           | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Carbon tetrachloride                   | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Chlorobenzene                          | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Dibromochloromethane                   | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Chloroform                             | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,2-Dibromoethane                      | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,2-Dichlorobenzene                    | < 0.050                     |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,3-Dichlorobenzene                    | < 0.050                     |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,4-Dichlorobenzene                    | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Dichlorodifluoromethane                | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,1-Dichloroethane                     | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,2-Dichloroethane                     | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,1-Dichloroethylene                   | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| cis-1,2-Dichloroethylene               | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| trans-1,2-Dichloroethylene             | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Methylene Chloride                     | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,2-Dichloropropane                    | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| cis-1,3-Dichloropropene                | <0.030                      |           | 0.030  | ug/g  | 21-JAN-20 |      |          |                         |  |
| trans-1,3-Dichloropropene              | <0.030                      |           | 0.030  | ug/g  | 21-JAN-20 |      |          |                         |  |
| 1,3-Dichloropropene (cis & trans)      | <0.042                      |           | 0.042  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Ethylbenzene                           | <0.018                      |           | 0.018  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| n-Hexane                               | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Methyl Ethyl Ketone                    | <0.50                       |           | 0.50   | ug/g  | 21-JAN-20 | 0.5  | 0.5      |                         |  |
| Methyl Isobutyl Ketone                 | <0.50                       |           | 0.50   | ug/g  | 21-JAN-20 | 0.5  | 0.5      |                         |  |
| MTBE                                   | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Styrene                                | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,1,1,2-Tetrachloroethane              | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,1,2,2-Tetrachloroethane              | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Tetrachloroethylene                    | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Toluene                                | <0.080                      |           | 0.080  | ug/g  | 21-JAN-20 | 0.2  | 0.2      |                         |  |
| 1,1,1-Trichloroethane                  | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| 1,1,2-Trichloroethane                  | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Trichloroethylene                      | <0.010                      |           | 0.010  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Trichlorofluoromethane                 | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.25     |                         |  |
| Vinyl chloride                         | <0.020                      |           | 0.020  | ug/g  | 21-JAN-20 | 0.02 | 0.02     |                         |  |
| o-Xylene                               | <0.020                      |           | 0.020  | ug/g  | 21-JAN-20 |      |          |                         |  |
| m+p-Xylenes                            | <0.030                      |           | 0.030  | ug/g  | 21-JAN-20 |      |          |                         |  |
| Xylenes (Total)                        | <0.050                      |           | 0.050  | ug/g  | 21-JAN-20 | 0.05 | 0.05     |                         |  |
| Surrogate: 4-Bromofluorobenzene        | 101.8                       |           | 50-140 | %     | 21-JAN-20 |      |          |                         |  |
| Surrogate: 1,4-Difluorobenzene         | 113.9                       |           | 50-140 | %     | 21-JAN-20 |      |          |                         |  |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



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| CE751900                               | ANALII  | ICAL      | טוטט   | CLINE   | KEPUK     | A I              | ;        | Page 3<br>24-JAN-20 1 |  |
|----------------------------------------|---------|-----------|--------|---------|-----------|------------------|----------|-----------------------|--|
| Sample Details Grouping Analyte        | Result  | Qualifier | D.L.   | Units   | Analyzad  | Guideline Limits |          |                       |  |
| Grouping Analyte                       | Result  | Qualifier | D.L.   | l       | Analyzed  |                  | Guideiir | ie Limits             |  |
| L2407279-1 MW112-15.4-16'              |         |           |        |         |           |                  |          |                       |  |
| Sampled By: V. PETERS on 18-JAN-20 @ 1 | 0:00    |           |        |         |           | #1               | #2       |                       |  |
| Matrix: SOIL                           |         |           |        |         |           | #1               | πΔ       |                       |  |
| Hydrocarbons                           |         |           |        |         |           |                  |          |                       |  |
| F1 (C6-C10)                            | <5.0    |           | 5.0    | ug/g    | 21-JAN-20 | 17               | 25       |                       |  |
| F1-BTEX                                | <5.0    |           | 5.0    | ug/g    | 22-JAN-20 | 17               | 25       |                       |  |
| F2 (C10-C16)                           | <10     |           | 10     | ug/g    | 21-JAN-20 | 10               | 10       |                       |  |
| F2-Naphth                              | <10     |           | 10     | ug/g    | 22-JAN-20 |                  |          |                       |  |
| F3 (C16-C34)                           | <50     |           | 50     | ug/g    | 21-JAN-20 | 240              | 240      |                       |  |
| F3-PAH                                 | <50     |           | 50     | ug/g    | 22-JAN-20 |                  |          |                       |  |
| F4 (C34-C50)                           | <50     |           | 50     | ug/g    | 21-JAN-20 | 120              | 120      |                       |  |
| Total Hydrocarbons (C6-C50)            | <72     |           | 72     | ug/g    | 22-JAN-20 |                  |          |                       |  |
| Chrom. to baseline at nC50             | YES     |           |        | No Unit | 21-JAN-20 |                  |          |                       |  |
| Surrogate: 2-Bromobenzotrifluoride     | 93.5    |           | 60-140 | %       | 21-JAN-20 |                  |          |                       |  |
| Surrogate: 3,4-Dichlorotoluene         | 82.0    |           | 60-140 | %       | 21-JAN-20 |                  |          |                       |  |
| Polycyclic Aromatic Hydrocarbons       |         |           |        |         |           |                  |          |                       |  |
| Acenaphthene                           | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.05             | 0.072    |                       |  |
| Acenaphthylene                         | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.093            | 0.093    |                       |  |
| Anthracene                             | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.05             | 0.16     |                       |  |
| Benzo(a)anthracene                     | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.095            | 0.36     |                       |  |
| Benzo(a)pyrene                         | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.05             | 0.3      |                       |  |
| Benzo(b)fluoranthene                   | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.3              | 0.47     |                       |  |
| Benzo(g,h,i)perylene                   | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.2              | 0.68     |                       |  |
| Benzo(k)fluoranthene                   | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.05             | 0.48     |                       |  |
| Chrysene                               | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.18             | 2.8      |                       |  |
| Dibenzo(ah)anthracene                  | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.1              | 0.1      |                       |  |
| Fluoranthene                           | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.24             | 0.56     |                       |  |
| Fluorene                               | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.05             | 0.12     |                       |  |
| Indeno(1,2,3-cd)pyrene                 | < 0.050 |           | 0.050  | ug/g    | 21-JAN-20 | 0.11             | 0.23     |                       |  |
| 1+2-Methylnaphthalenes                 | <0.042  |           | 0.042  | ug/g    | 21-JAN-20 | 0.05             | 0.59     |                       |  |
| 1-Methylnaphthalene                    | <0.030  |           | 0.030  | ug/g    | 21-JAN-20 | 0.05             | 0.59     |                       |  |
| 2-Methylnaphthalene                    | <0.030  |           | 0.030  | ug/g    | 21-JAN-20 | 0.05             | 0.59     |                       |  |
| Naphthalene                            | <0.013  |           | 0.013  | ug/g    | 21-JAN-20 | 0.05             | 0.09     |                       |  |
| Phenanthrene                           | <0.046  |           | 0.046  | ug/g    | 21-JAN-20 | 0.19             | 0.69     |                       |  |
| Pyrene                                 | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.19             | 1        |                       |  |
| Surrogate: 2-Fluorobiphenyl            | 88.8    |           | 50-140 | %       | 21-JAN-20 |                  |          |                       |  |
| Surrogate: p-Terphenyl d14             | 82.8    |           | 50-140 | %       | 21-JAN-20 |                  |          |                       |  |
| L2407279-2 TB-002                      |         |           |        |         |           |                  |          |                       |  |
| Sampled By: V. PETERS on 18-JAN-20 @ 1 | 0:00    |           |        |         |           |                  |          |                       |  |
|                                        | 0.00    |           |        |         |           | #1               | #2       |                       |  |
| Matrix: TRIP BLANK                     |         |           |        |         |           |                  |          |                       |  |
| Physical Tests                         |         |           |        |         |           |                  |          |                       |  |
| % Moisture                             | <0.25   |           | 0.25   | %       | 21-JAN-20 |                  |          |                       |  |
| Volatile Organic Compounds             |         |           |        |         |           |                  |          |                       |  |
| Acetone                                | <0.50   |           | 0.50   | ug/g    | 21-JAN-20 | 0.5              | 0.5      |                       |  |
| Benzene                                | <0.0068 |           | 0.0068 | ug/g    | 21-JAN-20 | 0.02             | 0.02     |                       |  |
| Bromodichloromethane                   | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.05             | 0.05     |                       |  |
| Bromoform                              | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.05             | 0.05     |                       |  |
| Bromomethane                           | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.05             | 0.05     |                       |  |
| Carbon tetrachloride                   | <0.050  |           | 0.050  | ug/g    | 21-JAN-20 | 0.05             | 0.05     |                       |  |

<sup>\*\*</sup> 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:



CE751900

## **ANALYTICAL GUIDELINE REPORT**

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| Sample Details                         |        |           |        |              |           |      |          | 24-JAN-20 1 | 1:06 (MT) |
|----------------------------------------|--------|-----------|--------|--------------|-----------|------|----------|-------------|-----------|
| Grouping Analyte                       | Result | Qualifier | D.L.   | Units        | Analyzed  |      | Guidelir | ne Limits   |           |
| L2407279-2 TB-002                      |        |           |        |              |           |      |          |             |           |
| Sampled By: V. PETERS on 18-JAN-20 @ 1 | 0:00   |           |        |              |           |      |          |             |           |
| Matrix: TRIP BLANK                     |        |           |        |              |           | #1   | #2       |             | ı         |
| Volatile Organic Compounds             |        |           |        |              |           |      |          |             |           |
| Chlorobenzene                          | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Dibromochloromethane                   | <0.050 |           | 0.050  | ug/g<br>ug/g | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Chloroform                             | <0.050 |           | 0.050  | ug/g<br>ug/g | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,2-Dibromoethane                      | <0.050 |           | 0.050  | ug/g<br>ug/g | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,2-Dichlorobenzene                    | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,3-Dichlorobenzene                    | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,4-Dichlorobenzene                    | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Dichlorodifluoromethane                | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,1-Dichloroethane                     | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,2-Dichloroethane                     | <0.050 |           | 0.050  | ug/g<br>ug/g | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,1-Dichloroethylene                   | <0.050 |           | 0.050  | ug/g<br>ug/g | 21-JAN-20 | 0.05 | 0.05     |             |           |
| cis-1,2-Dichloroethylene               | <0.050 |           | 0.050  | ug/g<br>ug/g | 21-JAN-20 | 0.05 | 0.05     |             |           |
| trans-1,2-Dichloroethylene             | <0.050 |           | 0.050  | ug/g<br>ug/g | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Methylene Chloride                     | <0.050 |           | 0.050  | ug/g<br>ug/g | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,2-Dichloropropane                    | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| cis-1,3-Dichloropropene                | <0.030 |           | 0.030  | ug/g         | 21-JAN-20 | 0.00 | 0.00     |             |           |
| trans-1,3-Dichloropropene              | <0.030 |           | 0.030  | ug/g         | 21-JAN-20 |      |          |             |           |
| 1,3-Dichloropropene (cis & trans)      | <0.042 |           | 0.042  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Ethylbenzene                           | <0.018 |           | 0.018  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| n-Hexane                               | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Methyl Ethyl Ketone                    | <0.50  |           | 0.50   | ug/g         | 21-JAN-20 | 0.5  | 0.5      |             |           |
| Methyl Isobutyl Ketone                 | <0.50  |           | 0.50   | ug/g         | 21-JAN-20 | 0.5  | 0.5      |             |           |
| MTBE                                   | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Styrene                                | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,1,1,2-Tetrachloroethane              | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,1,2,2-Tetrachloroethane              | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Tetrachloroethylene                    | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Toluene                                | <0.080 |           | 0.080  | ug/g         | 21-JAN-20 | 0.2  | 0.2      |             |           |
| 1,1,1-Trichloroethane                  | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| 1,1,2-Trichloroethane                  | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Trichloroethylene                      | <0.010 |           | 0.010  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Trichlorofluoromethane                 | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.25     |             |           |
| Vinyl chloride                         | <0.020 |           | 0.020  | ug/g         | 21-JAN-20 | 0.02 | 0.02     |             |           |
| o-Xylene                               | <0.020 |           | 0.020  | ug/g         | 21-JAN-20 | -    | _        |             |           |
| m+p-Xylenes                            | <0.030 |           | 0.030  | ug/g         | 21-JAN-20 |      |          |             |           |
| Xylenes (Total)                        | <0.050 |           | 0.050  | ug/g         | 21-JAN-20 | 0.05 | 0.05     |             |           |
| Surrogate: 4-Bromofluorobenzene        | 102.8  |           | 50-140 | %            | 21-JAN-20 |      |          |             |           |
| Surrogate: 1,4-Difluorobenzene         | 114.3  |           | 50-140 | %            | 21-JAN-20 |      |          |             |           |
| <b>G</b>                               |        |           |        |              |           |      |          |             |           |
|                                        |        |           |        |              |           |      |          |             |           |

<sup>\*\*</sup> 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:

#### **Reference Information**

Methods Listed (if applicable):

| ALS Test Code     | Matrix | Test Description                        | Method Reference***                 |
|-------------------|--------|-----------------------------------------|-------------------------------------|
| 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), 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), 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), 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

#### **Reference Information**

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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG

must be reported).

Soil

Sum of Xylene Isomer

**CALCULATION** 

XYLENES-SUM-CALC-

Concentrations

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:

17-826467

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.



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| 30<br>80-120<br>5 | 21-JAN-20<br>21-JAN-20                                                           |
|-------------------|----------------------------------------------------------------------------------|
| 80-120<br>5       |                                                                                  |
| 80-120<br>5       |                                                                                  |
| 5                 | 21-JAN-20                                                                        |
|                   |                                                                                  |
| 60 140            | 21-JAN-20                                                                        |
| 00-140            | 21-JAN-20                                                                        |
| 60-140            | 21-JAN-20                                                                        |
|                   |                                                                                  |
|                   |                                                                                  |
|                   |                                                                                  |
|                   | 21-JAN-20                                                                        |
|                   | 21-JAN-20                                                                        |
| 30                | 21-JAN-20                                                                        |
| 80-120            | 21-JAN-20                                                                        |
| 80-120            | 21-JAN-20                                                                        |
| 80-120            | 21-JAN-20                                                                        |
| 10                | 21-JAN-20                                                                        |
| 50                | 21-JAN-20                                                                        |
| 50                | 21-JAN-20                                                                        |
| 60-140            | 21-JAN-20                                                                        |
| 60-140            | 21-JAN-20                                                                        |
|                   | 21-JAN-20                                                                        |
| 60-140            | 21-JAN-20                                                                        |
|                   |                                                                                  |
|                   |                                                                                  |
| 20                | 21-JAN-20                                                                        |
| 90-110            | 21-JAN-20                                                                        |
| 0.25              | 21-JAN-20                                                                        |
|                   | 60-140 60-140 30 30 30 80-120 80-120 10 50 60-140 60-140 60-140 60-140 20 90-110 |



Workorder: L2407279 Report Date: 24-JAN-20 Page 2 of 10

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                   | Matrix | Reference           | Result          | Qualifier | Units | RPD | Limit  | Analyzed  |
|----------------------------------------|--------|---------------------|-----------------|-----------|-------|-----|--------|-----------|
| PAH-511-WT                             | Soil   |                     |                 |           |       |     |        |           |
| Batch R4973441                         |        |                     |                 |           |       |     |        |           |
| WG3260501-3 DUP<br>1-Methylnaphthalene |        | <b>WG3260501-</b> 5 | <b>5</b> <0.030 | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| 2-Methylnaphthalene                    |        | <0.030              | < 0.030         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Acenaphthene                           |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Acenaphthylene                         |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Anthracene                             |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Benzo(a)anthracene                     |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Benzo(a)pyrene                         |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Benzo(b)fluoranthene                   |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Benzo(g,h,i)perylene                   |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Benzo(k)fluoranthene                   |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Chrysene                               |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Dibenzo(ah)anthracene                  |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Fluoranthene                           |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Fluorene                               |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Indeno(1,2,3-cd)pyrene                 |        | <0.050              | <0.050          | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Naphthalene                            |        | <0.013              | <0.013          | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Phenanthrene                           |        | <0.046              | <0.046          | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| Pyrene                                 |        | <0.050              | < 0.050         | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20 |
| WG3260501-2 LCS<br>1-Methylnaphthalene |        |                     | 101.7           |           | %     |     | 50-140 | 21-JAN-20 |
| 2-Methylnaphthalene                    |        |                     | 95.8            |           | %     |     | 50-140 | 21-JAN-20 |
| Acenaphthene                           |        |                     | 101.2           |           | %     |     | 50-140 | 21-JAN-20 |
| Acenaphthylene                         |        |                     | 98.6            |           | %     |     | 50-140 | 21-JAN-20 |
| Anthracene                             |        |                     | 99.4            |           | %     |     | 50-140 | 21-JAN-20 |
| Benzo(a)anthracene                     |        |                     | 99.4            |           | %     |     | 50-140 | 21-JAN-20 |
| Benzo(a)pyrene                         |        |                     | 101.5           |           | %     |     | 50-140 | 21-JAN-20 |
| Benzo(b)fluoranthene                   |        |                     | 100.1           |           | %     |     | 50-140 | 21-JAN-20 |
| Benzo(g,h,i)perylene                   |        |                     | 96.9            |           | %     |     | 50-140 | 21-JAN-20 |
| Benzo(k)fluoranthene                   |        |                     | 106.8           |           | %     |     | 50-140 | 21-JAN-20 |
| Chrysene                               |        |                     | 114.8           |           | %     |     | 50-140 | 21-JAN-20 |
| Dibenzo(ah)anthracene                  |        |                     | 98.9            |           | %     |     | 50-140 | 21-JAN-20 |
| Fluoranthene                           |        |                     | 101.0           |           | %     |     | 50-140 | 21-JAN-20 |
| Fluorene                               |        |                     | 95.9            |           | %     |     | 50-140 | 21-JAN-20 |



Workorder: L2407279 Report Date: 24-JAN-20 Page 3 of 10

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                      | Matrix | Reference  | Result  | Qualifier | Units | RPD | Limit  | Analyzed               |
|-------------------------------------------|--------|------------|---------|-----------|-------|-----|--------|------------------------|
| PAH-511-WT                                | Soil   |            |         |           |       |     |        |                        |
| Batch R4973441                            |        |            |         |           |       |     |        |                        |
| WG3260501-2 LCS<br>Indeno(1,2,3-cd)pyrene |        |            | 96.0    |           | %     |     | 50-140 | 21-JAN-20              |
| Naphthalene                               |        |            | 98.9    |           | %     |     | 50-140 | 21-JAN-20<br>21-JAN-20 |
| Phenanthrene                              |        |            | 103.5   |           | %     |     | 50-140 | 21-JAN-20<br>21-JAN-20 |
| Pyrene                                    |        |            | 102.5   |           | %     |     | 50-140 | 21-JAN-20<br>21-JAN-20 |
| WG3260501-1 MB                            |        |            | 102.5   |           | 70    |     | 50-140 | 21-JAN-20              |
| 1-Methylnaphthalene                       |        |            | < 0.030 |           | ug/g  |     | 0.03   | 21-JAN-20              |
| 2-Methylnaphthalene                       |        |            | < 0.030 |           | ug/g  |     | 0.03   | 21-JAN-20              |
| Acenaphthene                              |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Acenaphthylene                            |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Anthracene                                |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Benzo(a)anthracene                        |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Benzo(a)pyrene                            |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Benzo(b)fluoranthene                      |        |            | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Benzo(g,h,i)perylene                      |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Benzo(k)fluoranthene                      |        |            | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Chrysene                                  |        |            | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Dibenzo(ah)anthracene                     |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Fluoranthene                              |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Fluorene                                  |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Indeno(1,2,3-cd)pyrene                    |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Naphthalene                               |        |            | <0.013  |           | ug/g  |     | 0.013  | 21-JAN-20              |
| Phenanthrene                              |        |            | <0.046  |           | ug/g  |     | 0.046  | 21-JAN-20              |
| Pyrene                                    |        |            | < 0.050 |           | ug/g  |     | 0.05   | 21-JAN-20              |
| Surrogate: 2-Fluorobiphe                  | enyl   |            | 113.6   |           | %     |     | 50-140 | 21-JAN-20              |
| Surrogate: p-Terphenyl d                  | 114    |            | 107.5   |           | %     |     | 50-140 | 21-JAN-20              |
| WG3260501-4 MS                            |        | WG3260501- |         |           |       |     |        |                        |
| 1-Methylnaphthalene                       |        |            | 80.0    |           | %     |     | 50-140 | 21-JAN-20              |
| 2-Methylnaphthalene                       |        |            | 75.6    |           | %     |     | 50-140 | 21-JAN-20              |
| Acenaphthene                              |        |            | 80.3    |           | %     |     | 50-140 | 21-JAN-20              |
| Acenaphthylene                            |        |            | 77.7    |           | %     |     | 50-140 | 21-JAN-20              |
| Anthracene                                |        |            | 79.2    |           | %     |     | 50-140 | 21-JAN-20              |
| Benzo(a)anthracene                        |        |            | 80.0    |           | %     |     | 50-140 | 21-JAN-20              |
| Benzo(a)pyrene                            |        |            | 81.0    |           | %     |     | 50-140 | 21-JAN-20              |
| Benzo(b)fluoranthene                      |        |            | 82.0    |           | %     |     | 50-140 | 21-JAN-20              |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                                     | Matrix | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed               |
|----------------------------------------------------------|--------|-------------|---------|-----------|-------|-----|--------|------------------------|
| PAH-511-WT                                               | Soil   |             |         |           |       |     |        |                        |
| Batch R4973441<br>WG3260501-4 MS<br>Benzo(g,h,i)perylene |        | WG3260501-5 | 76.2    |           | %     |     | 50-140 | 21-JAN-20              |
| Benzo(k)fluoranthene                                     |        |             | 83.9    |           | %     |     | 50-140 | 21-JAN-20<br>21-JAN-20 |
| Chrysene                                                 |        |             | 92.1    |           | %     |     | 50-140 | 21-JAN-20              |
| Dibenzo(ah)anthracene                                    |        |             | 77.7    |           | %     |     | 50-140 | 21-JAN-20              |
| Fluoranthene                                             |        |             | 79.2    |           | %     |     | 50-140 | 21-JAN-20              |
| Fluorene                                                 |        |             | 78.1    |           | %     |     | 50-140 | 21-JAN-20<br>21-JAN-20 |
| Indeno(1,2,3-cd)pyrene                                   |        |             | 77.4    |           | %     |     | 50-140 | 21-JAN-20              |
| Naphthalene                                              |        |             | 77.9    |           | %     |     | 50-140 | 21-JAN-20              |
| Phenanthrene                                             |        |             | 82.9    |           | %     |     | 50-140 | 21-JAN-20              |
| Pyrene                                                   |        |             | 80.1    |           | %     |     | 50-140 | 21-JAN-20              |
| VOC-511-HS-WT                                            | Soil   |             |         |           |       |     | 000    |                        |
| Batch R4973637                                           | Con    |             |         |           |       |     |        |                        |
| WG3260474-4 DUP                                          |        | WG3260474-3 |         |           |       |     |        |                        |
| 1,1,1,2-Tetrachloroethan                                 | e      | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,1,2,2-Tetrachloroethan                                 | e      | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,1,1-Trichloroethane                                    |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,1,2-Trichloroethane                                    |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,1-Dichloroethane                                       |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,1-Dichloroethylene                                     |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,2-Dibromoethane                                        |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,2-Dichlorobenzene                                      |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,2-Dichloroethane                                       |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,2-Dichloropropane                                      |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,3-Dichlorobenzene                                      |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| 1,4-Dichlorobenzene                                      |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| Acetone                                                  |        | <0.50       | <0.50   | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| Benzene                                                  |        | <0.0068     | <0.0068 | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| Bromodichloromethane                                     |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| Bromoform                                                |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| Bromomethane                                             |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| Carbon tetrachloride                                     |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| Chlorobenzene                                            |        | <0.050      | < 0.050 | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
| Chloroform                                               |        | <0.050      | <0.050  | RPD-NA    | ug/g  | N/A | 40     | 21-JAN-20              |
|                                                          |        |             |         |           |       |     |        |                        |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                     | Matrix | Reference          | Result          | Qualifier        | Units        | RPD        | Limit    | Analyzed               |
|------------------------------------------|--------|--------------------|-----------------|------------------|--------------|------------|----------|------------------------|
| VOC-511-HS-WT                            | Soil   |                    |                 |                  |              |            |          |                        |
| Batch R4973637                           |        |                    |                 |                  |              |            |          |                        |
| WG3260474-4 DUP cis-1,2-Dichloroethylene |        | <b>WG3260474</b> - | <b>3</b> <0.050 | DDD MA           | ua/a         | N1/A       | 40       | 04 1411 00             |
| cis-1,3-Dichloropropene                  |        | <0.030             | <0.030          | RPD-NA<br>RPD-NA | ug/g<br>ug/g | N/A<br>N/A | 40<br>40 | 21-JAN-20              |
| Dibromochloromethane                     |        | <0.050             | <0.050          | RPD-NA<br>RPD-NA | ug/g<br>ug/g | N/A<br>N/A | 40       | 21-JAN-20              |
| Dichlorodifluoromethane                  |        | <0.050             | <0.050          | RPD-NA<br>RPD-NA | ug/g<br>ug/g |            |          | 21-JAN-20              |
| Ethylbenzene                             |        | <0.030             | <0.018          | RPD-NA<br>RPD-NA | ug/g<br>ug/g | N/A        | 40       | 21-JAN-20              |
| n-Hexane                                 |        | <0.018             | <0.018          | RPD-NA<br>RPD-NA | ug/g<br>ug/g | N/A<br>N/A | 40<br>40 | 21-JAN-20              |
| Methylene Chloride                       |        | <0.050             | <0.050          | RPD-NA<br>RPD-NA | ug/g<br>ug/g | N/A<br>N/A | 40       | 21-JAN-20              |
| MTBE                                     |        | <0.050             | <0.050          |                  |              | N/A<br>N/A | 40       | 21-JAN-20              |
| m+p-Xylenes                              |        | <0.030             | <0.030          | RPD-NA<br>RPD-NA | ug/g         | N/A<br>N/A | 40       | 21-JAN-20              |
| Methyl Ethyl Ketone                      |        | <0.50              | <0.50           |                  | ug/g         |            |          | 21-JAN-20              |
| Methyl Isobutyl Ketone                   |        | <0.50              | <0.50           | RPD-NA<br>RPD-NA | ug/g<br>ug/g | N/A<br>N/A | 40<br>40 | 21-JAN-20<br>21-JAN-20 |
| o-Xylene                                 |        | <0.020             | <0.020          | RPD-NA           | ug/g         | N/A        | 40       |                        |
| Styrene                                  |        | <0.050             | <0.050          | RPD-NA           | ug/g         | N/A        | 40       | 21-JAN-20<br>21-JAN-20 |
| Tetrachloroethylene                      |        | <0.050             | <0.050          |                  |              | N/A        | 40       |                        |
| Toluene                                  |        | <0.080             | <0.080          | RPD-NA<br>RPD-NA | ug/g<br>ug/g | N/A<br>N/A | 40       | 21-JAN-20<br>21-JAN-20 |
| trans-1,2-Dichloroethyler                | 20     | <0.050             | <0.050          | RPD-NA<br>RPD-NA | ug/g<br>ug/g | N/A<br>N/A | 40       | 21-JAN-20<br>21-JAN-20 |
| trans-1,3-Dichloroproper                 |        | <0.030             | <0.030          | RPD-NA           | ug/g<br>ug/g | N/A        | 40       | 21-JAN-20<br>21-JAN-20 |
| Trichloroethylene                        |        | <0.030             | <0.010          | RPD-NA           | ug/g         | N/A<br>N/A | 40       | 21-JAN-20<br>21-JAN-20 |
| Trichlorofluoromethane                   |        | <0.050             | <0.050          | RPD-NA           | ug/g<br>ug/g | N/A        | 40       | 21-JAN-20<br>21-JAN-20 |
| Vinyl chloride                           |        | <0.020             | <0.020          | RPD-NA           | ug/g         | N/A        | 40       | 21-JAN-20<br>21-JAN-20 |
| WG3260474-2 LCS                          |        | <b>\0.020</b>      | <b>\0.020</b>   | RPD-NA           | ug/g         | IN/A       | 40       | 21-JAN-20              |
| 1,1,1,2-Tetrachloroethan                 | ie     |                    | 96.7            |                  | %            |            | 60-130   | 21-JAN-20              |
| 1,1,2,2-Tetrachloroethan                 | ie     |                    | 85.8            |                  | %            |            | 60-130   | 21-JAN-20              |
| 1,1,1-Trichloroethane                    |        |                    | 98.5            |                  | %            |            | 60-130   | 21-JAN-20              |
| 1,1,2-Trichloroethane                    |        |                    | 85.7            |                  | %            |            | 60-130   | 21-JAN-20              |
| 1,1-Dichloroethane                       |        |                    | 92.8            |                  | %            |            | 60-130   | 21-JAN-20              |
| 1,1-Dichloroethylene                     |        |                    | 91.6            |                  | %            |            | 60-130   | 21-JAN-20              |
| 1,2-Dibromoethane                        |        |                    | 82.9            |                  | %            |            | 70-130   | 21-JAN-20              |
| 1,2-Dichlorobenzene                      |        |                    | 97.2            |                  | %            |            | 70-130   | 21-JAN-20              |
| 1,2-Dichloroethane                       |        |                    | 88.2            |                  | %            |            | 60-130   | 21-JAN-20              |
| 1,2-Dichloropropane                      |        |                    | 90.1            |                  | %            |            | 70-130   | 21-JAN-20              |
| 1,3-Dichlorobenzene                      |        |                    | 100.6           |                  | %            |            | 70-130   | 21-JAN-20              |
| 1,4-Dichlorobenzene                      |        |                    | 100.3           |                  | %            |            | 70-130   | 21-JAN-20              |
|                                          |        |                    |                 |                  |              |            |          |                        |



Workorder: L2407279 Report Date: 24-JAN-20 Page 6 of 10

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                         | Matrix | Reference | Result       | Qualifier | Units | RPD | Limit  | Analyzed   |
|----------------------------------------------|--------|-----------|--------------|-----------|-------|-----|--------|------------|
| VOC-511-HS-WT                                | Soil   |           |              |           |       |     |        |            |
| Batch R4973637                               |        |           |              |           |       |     |        |            |
| WG3260474-2 LCS                              |        |           | 92.0         |           | %     |     | 00.440 | 04 1411 00 |
| Acetone<br>Benzene                           |        |           | 82.9<br>95.1 |           | %     |     | 60-140 | 21-JAN-20  |
| Bromodichloromethane                         |        |           | 93.6         |           | %     |     | 70-130 | 21-JAN-20  |
| Bromodorm                                    |        |           | 93.6<br>89.8 |           | %     |     | 50-140 | 21-JAN-20  |
| Bromomethane                                 |        |           | 79.5         |           | %     |     | 70-130 | 21-JAN-20  |
| Carbon tetrachloride                         |        |           |              |           | %     |     | 50-140 | 21-JAN-20  |
| Chlorobenzene                                |        |           | 99.5<br>95.1 |           | %     |     | 70-130 | 21-JAN-20  |
|                                              |        |           |              |           |       |     | 70-130 | 21-JAN-20  |
| Chloroform                                   |        |           | 92.9         |           | %     |     | 70-130 | 21-JAN-20  |
| cis-1,2-Dichloroethylene                     |        |           | 86.3         |           | %     |     | 70-130 | 21-JAN-20  |
| cis-1,3-Dichloropropene Dibromochloromethane |        |           | 90.6         |           | %     |     | 70-130 | 21-JAN-20  |
|                                              |        |           | 90.9         |           | %     |     | 60-130 | 21-JAN-20  |
| Dichlorodifluoromethane                      | е      |           | 60.6         |           | %     |     | 50-140 | 21-JAN-20  |
| Ethylbenzene                                 |        |           | 98.5         |           | %     |     | 70-130 | 21-JAN-20  |
| n-Hexane                                     |        |           | 83.3         |           | %     |     | 70-130 | 21-JAN-20  |
| Methylene Chloride                           |        |           | 87.5         |           | %     |     | 70-130 | 21-JAN-20  |
| MTBE                                         |        |           | 92.9         |           | %     |     | 70-130 | 21-JAN-20  |
| m+p-Xylenes                                  |        |           | 99.1         |           | %     |     | 70-130 | 21-JAN-20  |
| Methyl Ethyl Ketone                          |        |           | 77.5         |           | %     |     | 60-140 | 21-JAN-20  |
| Methyl Isobutyl Ketone                       |        |           | 78.0         |           | %     |     | 60-140 | 21-JAN-20  |
| o-Xylene                                     |        |           | 95.8         |           | %     |     | 70-130 | 21-JAN-20  |
| Styrene                                      |        |           | 96.9         |           | %     |     | 70-130 | 21-JAN-20  |
| Tetrachloroethylene                          |        |           | 97.6         |           | %     |     | 60-130 | 21-JAN-20  |
| Toluene                                      |        |           | 98.0         |           | %     |     | 70-130 | 21-JAN-20  |
| trans-1,2-Dichloroethyle                     |        |           | 95.2         |           | %     |     | 60-130 | 21-JAN-20  |
| trans-1,3-Dichloroprope                      | ne     |           | 95.6         |           | %     |     | 70-130 | 21-JAN-20  |
| Trichloroethylene                            |        |           | 96.2         |           | %     |     | 60-130 | 21-JAN-20  |
| Trichlorofluoromethane                       |        |           | 86.8         |           | %     |     | 50-140 | 21-JAN-20  |
| Vinyl chloride                               |        |           | 94.3         |           | %     |     | 60-140 | 21-JAN-20  |
| WG3260474-1 MB<br>1,1,1,2-Tetrachloroetha    | ne     |           | <0.050       |           | ug/g  |     | 0.05   | 21-JAN-20  |
| 1,1,2,2-Tetrachloroetha                      | ne     |           | < 0.050      |           | ug/g  |     | 0.05   | 21-JAN-20  |
| 1,1,1-Trichloroethane                        |        |           | <0.050       |           | ug/g  |     | 0.05   | 21-JAN-20  |
| 1,1,2-Trichloroethane                        |        |           | < 0.050      |           | ug/g  |     | 0.05   | 21-JAN-20  |
| 1,1-Dichloroethane                           |        |           | <0.050       |           | ug/g  |     | 0.05   | 21-JAN-20  |
|                                              |        |           |              |           |       |     |        |            |



Workorder: L2407279 Report Date: 24-JAN-20 Page 7 of 10

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                   | Matrix | Reference | Result  | Qualifier | Units | RPD | Limit  | Analyzed   |
|----------------------------------------|--------|-----------|---------|-----------|-------|-----|--------|------------|
| VOC-511-HS-WT                          | Soil   |           |         |           |       |     |        |            |
| Batch R4973637                         |        |           |         |           |       |     |        |            |
| WG3260474-1 MB                         |        |           | -O OEO  |           | ua/a  |     | 0.05   | 04 1441 00 |
| 1,1-Dichloroethylene 1,2-Dibromoethane |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| •                                      |        |           | <0.050  |           | ug/g  |     |        | 21-JAN-20  |
| 1,2-Dichlorobenzene                    |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| 1,2-Dichloroethane                     |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| 1,2-Dichloropropane                    |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| 1,3-Dichlorobenzene                    |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| 1,4-Dichlorobenzene                    |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Acetone                                |        |           | <0.50   |           | ug/g  |     | 0.5    | 21-JAN-20  |
| Benzene                                |        |           | <0.0068 |           | ug/g  |     | 0.0068 | 21-JAN-20  |
| Bromodichloromethane                   |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Bromoform                              |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Bromomethane                           |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Carbon tetrachloride                   |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Chlorobenzene                          |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Chloroform                             |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| cis-1,2-Dichloroethylene               |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| cis-1,3-Dichloropropene                |        |           | <0.030  |           | ug/g  |     | 0.03   | 21-JAN-20  |
| Dibromochloromethane                   |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Dichlorodifluoromethan                 | е      |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Ethylbenzene                           |        |           | <0.018  |           | ug/g  |     | 0.018  | 21-JAN-20  |
| n-Hexane                               |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Methylene Chloride                     |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| MTBE                                   |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| m+p-Xylenes                            |        |           | <0.030  |           | ug/g  |     | 0.03   | 21-JAN-20  |
| Methyl Ethyl Ketone                    |        |           | <0.50   |           | ug/g  |     | 0.5    | 21-JAN-20  |
| Methyl Isobutyl Ketone                 |        |           | <0.50   |           | ug/g  |     | 0.5    | 21-JAN-20  |
| o-Xylene                               |        |           | <0.020  |           | ug/g  |     | 0.02   | 21-JAN-20  |
| Styrene                                |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Tetrachloroethylene                    |        |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| Toluene                                |        |           | <0.080  |           | ug/g  |     | 80.0   | 21-JAN-20  |
| trans-1,2-Dichloroethyle               | ene    |           | <0.050  |           | ug/g  |     | 0.05   | 21-JAN-20  |
| trans-1,3-Dichloroprope                | ene    |           | <0.030  |           | ug/g  |     | 0.03   | 21-JAN-20  |
| Trichloroethylene                      |        |           | <0.010  |           | ug/g  |     | 0.01   | 21-JAN-20  |
|                                        |        |           |         |           |       |     |        |            |



Workorder: L2407279 Report Date: 24-JAN-20 Page 8 of 10

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test Mat                              | rix Reference | Result | Qualifier | Units        | RPD | Limit  | Analyzed               |
|---------------------------------------|---------------|--------|-----------|--------------|-----|--------|------------------------|
| VOC-511-HS-WT Soi                     | il            |        |           |              |     |        |                        |
| Batch R4973637                        |               |        |           |              |     |        |                        |
| WG3260474-1 MB Trichlorofluoromethane |               | <0.050 |           | ua/a         |     | 0.05   | 04 1411 00             |
| Vinyl chloride                        |               | <0.030 |           | ug/g<br>ug/g |     | 0.03   | 21-JAN-20<br>21-JAN-20 |
| Surrogate: 1,4-Difluorobenzer         | ne            | 120.6  |           | w<br>%       |     | 50-140 |                        |
| Surrogate: 4-Bromofluoroben           |               | 109.1  |           | %            |     | 50-140 | 21-JAN-20<br>21-JAN-20 |
| WG3260474-5 MS                        | WG3260474-    |        |           | 70           |     | 30-140 | 21-JAN-20              |
| 1,1,1,2-Tetrachloroethane             | WG3200474-    | 101.1  |           | %            |     | 50-140 | 21-JAN-20              |
| 1,1,2,2-Tetrachloroethane             |               | 89.9   |           | %            |     | 50-140 | 21-JAN-20              |
| 1,1,1-Trichloroethane                 |               | 103.5  |           | %            |     | 50-140 | 21-JAN-20              |
| 1,1,2-Trichloroethane                 |               | 90.3   |           | %            |     | 50-140 | 21-JAN-20              |
| 1,1-Dichloroethane                    |               | 98.5   |           | %            |     | 50-140 | 21-JAN-20              |
| 1,1-Dichloroethylene                  |               | 96.9   |           | %            |     | 50-140 | 21-JAN-20              |
| 1,2-Dibromoethane                     |               | 86.8   |           | %            |     | 50-140 | 21-JAN-20              |
| 1,2-Dichlorobenzene                   |               | 100.8  |           | %            |     | 50-140 | 21-JAN-20              |
| 1,2-Dichloroethane                    |               | 93.1   |           | %            |     | 50-140 | 21-JAN-20              |
| 1,2-Dichloropropane                   |               | 94.7   |           | %            |     | 50-140 | 21-JAN-20              |
| 1,3-Dichlorobenzene                   |               | 103.6  |           | %            |     | 50-140 | 21-JAN-20              |
| 1,4-Dichlorobenzene                   |               | 103.5  |           | %            |     | 50-140 | 21-JAN-20              |
| Acetone                               |               | 89.9   |           | %            |     | 50-140 | 21-JAN-20              |
| Benzene                               |               | 100.1  |           | %            |     | 50-140 | 21-JAN-20              |
| Bromodichloromethane                  |               | 98.1   |           | %            |     | 50-140 | 21-JAN-20              |
| Bromoform                             |               | 94.6   |           | %            |     | 50-140 | 21-JAN-20              |
| Bromomethane                          |               | 84.0   |           | %            |     | 50-140 | 21-JAN-20              |
| Carbon tetrachloride                  |               | 104.6  |           | %            |     | 50-140 | 21-JAN-20              |
| Chlorobenzene                         |               | 99.2   |           | %            |     | 50-140 | 21-JAN-20              |
| Chloroform                            |               | 97.7   |           | %            |     | 50-140 | 21-JAN-20              |
| cis-1,2-Dichloroethylene              |               | 91.1   |           | %            |     | 50-140 | 21-JAN-20              |
| cis-1,3-Dichloropropene               |               | 92.7   |           | %            |     | 50-140 | 21-JAN-20              |
| Dibromochloromethane                  |               | 95.6   |           | %            |     | 50-140 | 21-JAN-20              |
| Dichlorodifluoromethane               |               | 68.6   |           | %            |     | 50-140 | 21-JAN-20              |
| Ethylbenzene                          |               | 102.3  |           | %            |     | 50-140 | 21-JAN-20              |
| n-Hexane                              |               | 89.6   |           | %            |     | 50-140 | 21-JAN-20              |
| Methylene Chloride                    |               | 92.5   |           | %            |     | 50-140 | 21-JAN-20              |
| MTBE                                  |               | 97.3   |           | %            |     | 50-140 | 21-JAN-20              |
| m+p-Xylenes                           |               | 102.9  |           | %            |     | 50-140 | 21-JAN-20              |



Workorder: L2407279 Report Date: 24-JAN-20 Page 9 of 10

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| est                              | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|----------------------------------|--------|-------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                    | Soil   |             |        |           |       |     |        |           |
| Batch R4973637<br>WG3260474-5 MS | •      | WG3260474-3 | 2      |           |       |     |        |           |
| Methyl Ethyl Ketone              |        | WG3200474-  | 82.1   |           | %     |     | 50-140 | 21-JAN-20 |
| Methyl Isobutyl Ketone           |        |             | 80.5   |           | %     |     | 50-140 | 21-JAN-20 |
| o-Xylene                         |        |             | 99.5   |           | %     |     | 50-140 | 21-JAN-20 |
| Styrene                          |        |             | 100.1  |           | %     |     | 50-140 | 21-JAN-20 |
| Tetrachloroethylene              |        |             | 100.7  |           | %     |     | 50-140 | 21-JAN-20 |
| Toluene                          |        |             | 102.6  |           | %     |     | 50-140 | 21-JAN-20 |
| trans-1,2-Dichloroethyl          | ene    |             | 99.3   |           | %     |     | 50-140 | 21-JAN-20 |
| trans-1,3-Dichloroprope          | ene    |             | 97.7   |           | %     |     | 50-140 | 21-JAN-20 |
| Trichloroethylene                |        |             | 99.98  |           | %     |     | 50-140 | 21-JAN-20 |
| Trichlorofluoromethane           | )      |             | 92.3   |           | %     |     | 50-140 | 21-JAN-20 |
| Vinyl chloride                   |        |             | 100.8  |           | %     |     | 50-140 | 21-JAN-20 |

Workorder: L2407279 Report Date: 24-JAN-20

Client: CH2M HILL CANADA LIMITED Page 10 of 10

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300  $\,$ 

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

#### 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.

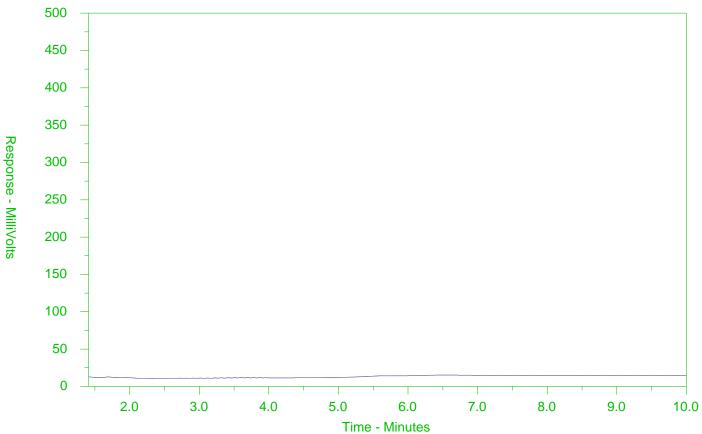
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide 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: L2407279-1 Client Sample ID: MW112-15.4-16'



| <b>←</b> -F2- | →-                   | —F3—→←—F4— | <b>&gt;</b>               |  |  |  |  |  |  |
|---------------|----------------------|------------|---------------------------|--|--|--|--|--|--|
| nC10          | nC16                 | nC34       | nC50                      |  |  |  |  |  |  |
| 174°C         | 287°C                | 481°C      | 575°C                     |  |  |  |  |  |  |
| 346°F         | 549°F                | 898°F      | 1067°F                    |  |  |  |  |  |  |
| Gasolin       | e <b>→</b>           | ← Mot      | or Oils/Lube Oils/Grease- |  |  |  |  |  |  |
| <b>←</b>      | ← 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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.



#### Chain of Custody (COC) / Analytical Request Form

1.2407279-COFC

COC Number: 17 - 826467

Canada Toli Free: 1 800 668 9878

| Report To         | Contact and company name below will appear on the final report. |                            | Report Format                                    | / Distribution,    |                                                    |            | Select         | Service      | Lavel Below                                      | - Contac                                         | t your AM      | to confin                                        | m ell E&F    | TATe (s       | richarges :     | may apply]  |                       |
|-------------------|-----------------------------------------------------------------|----------------------------|--------------------------------------------------|--------------------|----------------------------------------------------|------------|----------------|--------------|--------------------------------------------------|--------------------------------------------------|----------------|--------------------------------------------------|--------------|---------------|-----------------|-------------|-----------------------|
| Сотрвну:          | Jacobs                                                          | Select Report F            | ormat: 🗶 pof                                     | XI Excer X( o      |                                                    |            | Regul          |              |                                                  |                                                  |                | pni - busine                                     |              |               |                 |             |                       |
| Contact.          | Michael Shira                                                   | Quality Control            | (OC) Report with Rep                             | on XIves           | NO                                                 | ا<br>افع   | 4 day [P       | 4-20%]       |                                                  | , <u> </u>                                       |                | ss day [E                                        |              |               |                 |             |                       |
| Phone:            | <u> 1519-579-3580</u>                                           | <del>-</del>               | SUIts to Cinega on Report -                      |                    |                                                    |            | 3 day (P       | 3-25%]       |                                                  | 1 5                                              | iama Day       | . Weeker                                         | nd or Sta    | dutory h      | oliday [E2      | 2 -200%     | _                     |
|                   | Company address below will appear on the final report           | Select Distributi          |                                                  | MAJIL              |                                                    | 1          | 2 day [P       | 2-50%)       |                                                  | [ * [0                                           | Laborato       | гу орели                                         | ng feas n    | пау врр       | ry) ]           | 200 /6      | Ι,                    |
| Street            | 72 Victoria St. S Suite 300                                     |                            | michael Sa                                       |                    |                                                    |            | Date and 1     | Tittle Phoqu | ired for all E&                                  | P TATe:                                          |                |                                                  | bb           | -mmm-y        | y hhamm         |             |                       |
| City/Province:    | Kitchener, ON                                                   | Emeil? Co                  | l-taves@i                                        | acobs              | com                                                | or hest    | dut em no      | e las perfor | med screening to                                 | o the servic                                     | a favel earect | MG, you will t                                   | de contacted | d             |                 |             |                       |
| Postal Coce       | NZG 449                                                         | Email 3 + C Y              | va. mcca                                         | HWO 1              | <u> </u>                                           | m.         |                |              |                                                  |                                                  | Analysis       | s Reques                                         | я            |               |                 |             |                       |
| nvoice To         | Same as Report To YES   NO                                      |                            | Invoice Dis                                      |                    |                                                    |            |                | Indic        | ate Filtered (□),                                | , Preserv <b>o</b> r                             | (P) or Filler  | ed and Pres                                      | served (F#P) | 1 below       |                 |             | $T_{\bullet}$         |
|                   | Copy of Invoice with Report 1/ Y€S   NO                         | Select Invoice D           | Distribution X &                                 | MAIL NAIL          | ] FAX                                              | CONTAINERS |                |              |                                                  |                                                  |                |                                                  | Т            | ŢŢ            |                 | 1 9         | Special Instructions) |
| Company:          | Juiobs 10 minus                                                 | Email 1 or Fax             |                                                  |                    |                                                    | ᄬ          | <b>3</b>       |              |                                                  |                                                  |                |                                                  |              | $\Box$        |                 | 占           | 월                     |
| Contact:          | Accounts Dayable                                                | Email 2                    | 55 L                                             |                    |                                                    | l₹l        | 00             |              | .                                                |                                                  |                |                                                  |              |               |                 | エ           | Ĭ                     |
| 51 d Annaum # 1   | Project Information V                                           | AFE/Cost Center            | Oil and Gas Required                             | <del>, '</del>     | 84)                                                | 5          | 2              |              |                                                  |                                                  |                |                                                  |              |               |                 | 2           | . Ţ                   |
| lob#              | (E751900                                                        | <del> </del>               |                                                  | PO#                |                                                    | Ιō,        | 100            | 1            |                                                  |                                                  |                | !                                                |              |               | ļ               | NO NO       | å                     |
| PO / AFE:         | LE (SI TOO                                                      | Requisition of the         |                                                  | Routing Cade       |                                                    | 1 - 1      | 出              |              |                                                  |                                                  |                | 1                                                |              |               |                 | S           |                       |
| SD:               |                                                                 | Requisitioner<br>Location: |                                                  |                    |                                                    | 尚          | <del>'</del> - |              | [                                                |                                                  |                |                                                  |              | !             |                 | lű          | 8                     |
| ····              |                                                                 | COCADON.                   |                                                  | <del></del> -      | •                                                  |            | 17             |              |                                                  |                                                  | ļ              |                                                  | ı            |               |                 | تے          | 3                     |
| ALS Leb Wor       | the Order & (late use only): 2467 279 San 20A                   | ALS Contact:               | D.H.                                             | Sampler: 🌾         | Peters                                             | NUMBER     | -              |              | i                                                |                                                  | ĺ              |                                                  | - 1          |               |                 | AMP         |                       |
| ALS Sample #      | Sample Identification and/or Coordinates                        |                            | Date                                             | Time               | T                                                  | ΙΣΙ        | 취4             | 31           | í                                                | !                                                |                |                                                  |              |               |                 | ] ≥         | 5                     |
| (lets use only)   | (This description will appear on the report)                    |                            | (dd-mmin-yy)                                     | (pp.com)           | Sample Type                                        | ⊋          | <b>ZZ</b>      | 38           | 1                                                |                                                  |                | 1 1                                              |              |               | 1 1             | 8           | 1 8 P                 |
|                   | MW/1/2-15.4-16'                                                 |                            | 13-01-2020                                       | 10:00              | 1,02                                               | 3          | स्र            | - X          | -                                                | <del>                                     </del> | +              | <del>                                     </del> | +            | ╆━┼           | <del></del> -   | <del></del> | ┝╇┤                   |
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| · ·               |                                                                 |                            | <del>                                     </del> | <u>!</u>           | <del> </del>                                       | $\Box$     | $\perp$        |              | <del>                                     </del> |                                                  |                | igspace                                          |              | Ш             |                 | <u> </u>    | Ш                     |
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| ·                 |                                                                 |                            | <u> </u>                                         |                    |                                                    |            |                | Ì            | Ţ                                                |                                                  | i              |                                                  | $\neg$       |               | $\neg \neg$     |             |                       |
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|                   | Special instructions /                                          | Specific Principle to      | add on report by click                           | ing on the dree d  | nun les balan                                      |            |                |              | SAMOI F                                          | CONDI                                            | TIÓN AS        | RÉCEIVE                                          | ED Clab      |               | ليك             |             | 31.                   |
| Drinkin           | g Water (DW) Samples' (client use)                              |                            | ectronic CDC only)                               | inig on the grop-u | omi iist seista                                    | Froten     |                |              | _                                                |                                                  | ervations      |                                                  |              |               | Nia .           |             | *                     |
|                   | n from a Regulated DW System?                                   | 521かす                      | *                                                |                    |                                                    | ice Pax    | xu [ <b>Z</b>  | . —          | ubes 🔲                                           | Custody                                          | seal intac     | d Ye                                             | =            | =             | No              |             | 4                     |
|                   | " P4 '                                                          | -2101                      |                                                  |                    |                                                    |            | initiated      |              | _                                                |                                                  | <b>-</b>       |                                                  | _            | -             |                 | -           | î.                    |
| Are samples for h | numen consumption/ use?                                         |                            |                                                  |                    |                                                    |            | HAHITIV        | AL COOLE     | я те <b>мпе</b> яат.                             | IRES °C                                          |                |                                                  | FINAL (      | COCKER !      | EMPERATU        | RES °C      | <b>f</b> d            |
| YE                | ES X NO                                                         |                            |                                                  |                    |                                                    |            |                |              | i                                                |                                                  |                | 31,7                                             | Ś            |               |                 |             | 1                     |
| Delegged by       | SHIPMENT RELEASE (client use)  Date:   Time:                    | Corning by                 | INITIAL SHIPMENT                                 | T RECEPTION (18    |                                                    | <b>T</b>   |                |              |                                                  | FINAL S                                          | HIPMEN         | T RECEP                                          | TION (b)     | D VINE OF     | Hy)             |             |                       |
| Released by.      | efe 2020/01/20 Time:                                            | Received by:               | 1                                                | DENT:              | ľ                                                  | Time:      | Rec            | d beviex     |                                                  |                                                  | Dale<br>V      |                                                  | 0.20         | 20            |                 | 1ime:       | $I \Box$              |
| REFER TO BACK     | PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION                 |                            | WHI                                              | E LABORATORY       | COPY YELLOW                                        | - CLIE     | NT COPY        |              |                                                  |                                                  | بر             | ~ ~                                              |              |               |                 | 10.03       | <u>P</u>              |
|                   |                                                                 |                            |                                                  |                    |                                                    |            |                |              |                                                  |                                                  |                |                                                  |              |               |                 |             |                       |



CH2M HILL CANADA LIMITED ATTN: MICHAEL SHIRY

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 23-JAN-20

Report Date: 30-JAN-20 14:19 (MT)

Version: FINAL

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2408835

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900 C of C Numbers: 17-724434

Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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CE751900

## **ANALYTICAL GUIDELINE REPORT**

L2408835 CONTD....

Page 2 of 8 30-JAN-20 14:19 (MT)

| Sample Details                                         |               |           |              |              |                        |            | 30-JAN-20 14:19 (MT) |
|--------------------------------------------------------|---------------|-----------|--------------|--------------|------------------------|------------|----------------------|
| Grouping Analyte                                       | Result        | Qualifier | D.L.         | Units        | Analyzed               |            | Guideline Limits     |
| L2408835-1 MW112                                       |               |           |              |              |                        |            |                      |
| Sampled By: V.PETERS on 23-JAN-20 @ 09:                | 25            |           |              |              |                        |            |                      |
| Matrix: WATER                                          |               |           |              |              |                        | #1         |                      |
| Volatile Organic Compounds                             |               |           |              |              |                        |            |                      |
| Acetone                                                | <30           |           | 30           | ug/L         | 24-JAN-20              | 2700       |                      |
| Benzene                                                | <0.50         |           | 0.50         | "            | 24-JAN-20<br>24-JAN-20 | 0.5        |                      |
|                                                        |               |           |              | ug/L         |                        |            |                      |
| Bromodichloromethane<br>Bromoform                      | <2.0<br><5.0  |           | 2.0<br>5.0   | ug/L         | 24-JAN-20              | 2          |                      |
| Bromomethane                                           | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 5          |                      |
|                                                        | <0.30         |           | 0.30         | ug/L         | 24-JAN-20              | 0.89       |                      |
| Carbon tetrachloride Chlorobenzene                     | <0.20         |           | 0.20         | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.2        |                      |
| Dibromochloromethane                                   | <0.50         |           |              | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5        |                      |
|                                                        |               |           | 2.0          | ug/L         |                        | 2          |                      |
| Chloroform<br>1,2-Dibromoethane                        | 6.8<br><0.20  |           | 1.0<br>0.20  | ug/L         | 24-JAN-20<br>24-JAN-20 | *2         |                      |
| · · · · · · · · · · · · · · · · · · ·                  | <0.20         |           |              | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.2        |                      |
| 1,2-Dichlorobenzene<br>1,3-Dichlorobenzene             | <0.50         |           | 0.50<br>0.50 | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5<br>0.5 |                      |
| ·                                                      | <0.50         |           |              | ug/L         | 24-JAN-20<br>24-JAN-20 |            |                      |
| 1,4-Dichlorobenzene Dichlorodifluoromethane            | <0.50         |           | 0.50<br>2.0  | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5<br>590 |                      |
| 1.1-Dichloroethane                                     | <0.50         |           | 0.50         | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5        |                      |
| 1,2-Dichloroethane                                     | <0.50         |           | 0.50         | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5        |                      |
| 1,1-Dichloroethylene                                   | <0.50         |           | 0.50         | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5<br>0.5 |                      |
|                                                        | <0.50         |           | 0.50         | ug/L         | 24-JAN-20<br>24-JAN-20 |            |                      |
| cis-1,2-Dichloroethylene<br>trans-1,2-Dichloroethylene | <0.50         |           | 0.50         | ug/L         | 24-JAN-20<br>24-JAN-20 | 1.6        |                      |
| ,                                                      | <0.50<br><5.0 |           | 5.0          | ug/L         | 24-JAN-20<br>24-JAN-20 | 1.6<br>5   |                      |
| Methylene Chloride                                     | <0.50         |           | 0.50         | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5        |                      |
| 1,2-Dichloropropane cis-1,3-Dichloropropene            | <0.30         |           | 0.30         | ug/L<br>ug/L | 24-JAN-20<br>24-JAN-20 | 0.5        |                      |
| trans-1,3-Dichloropropene                              | <0.30         |           | 0.30         | ug/L<br>ug/L | 24-JAN-20<br>24-JAN-20 |            |                      |
| 1,3-Dichloropropene (cis & trans)                      | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                      |
| Ethylbenzene                                           | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                      |
| n-Hexane                                               | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 5          |                      |
| Methyl Ethyl Ketone                                    | <20           |           | 20           | ug/L         | 24-JAN-20              | 400        |                      |
| Methyl Isobutyl Ketone                                 | <20           |           | 20           | ug/L         | 24-JAN-20              | 640        |                      |
| MTBE                                                   | <2.0          |           | 2.0          | ug/L         | 24-JAN-20              | 15         |                      |
| Styrene                                                | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                      |
| 1,1,1,2-Tetrachloroethane                              | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 1.1        |                      |
| 1,1,2,2-Tetrachloroethane                              | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                      |
| Tetrachloroethylene                                    | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                      |
| Toluene                                                | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.8        |                      |
| 1,1,1-Trichloroethane                                  | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                      |
| 1,1,2-Trichloroethane                                  | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                      |
| Trichloroethylene                                      | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                      |
| Trichlorofluoromethane                                 | <5.0          |           | 5.0          | ug/L         | 24-JAN-20              | 150        |                      |
| Vinyl chloride                                         | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                      |
| o-Xylene                                               | <0.30         |           | 0.30         | ug/L         | 24-JAN-20              |            |                      |
| m+p-Xylenes                                            | <0.40         |           | 0.40         | ug/L         | 24-JAN-20              |            |                      |
| Xylenes (Total)                                        | <0.50         |           | 0.50         | ug/L         | 24-JAN-20              | 72         |                      |
| Surrogate: 4-Bromofluorobenzene                        | 99.0          |           | 70-130       | %            | 24-JAN-20              |            |                      |
| Surrogate: 1,4-Difluorobenzene                         | 102.0         |           | 70-130       | %            | 24-JAN-20              |            |                      |
| Hydrocarbons                                           |               |           |              |              |                        |            |                      |
| F1 (C6-C10)                                            | <25           |           | 25           | ug/L         | 24-JAN-20              | 420        |                      |
|                                                        | 1             | -         | 1            |              | 1                      |            |                      |

<sup>\*\*</sup> 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:



L2408835 CONTD.... Page 3 of 8

| E751900 ANALT IICAL GUIDELINE REPORT Page 3 of 8 |        |           |        |         |           |      |                  |  |  |  |  |
|--------------------------------------------------|--------|-----------|--------|---------|-----------|------|------------------|--|--|--|--|
| Sample Details                                   | بال م  | Ouglitie  | D.1    | l leite | A         |      |                  |  |  |  |  |
| Grouping Analyte                                 | Result | Qualifier | D.L.   | Units   | Analyzed  |      | Guideline Limits |  |  |  |  |
| L2408835-1 MW112                                 |        |           |        |         |           |      |                  |  |  |  |  |
| Sampled By: V.PETERS on 23-JAN-20 @ 0            | 9:25   |           |        |         |           | #1   |                  |  |  |  |  |
| Matrix: WATER                                    |        |           |        |         |           | #1   |                  |  |  |  |  |
| Hydrocarbons                                     |        |           |        |         |           |      |                  |  |  |  |  |
| F1-BTEX                                          | <25    |           | 25     | ug/L    | 24-JAN-20 | 420  |                  |  |  |  |  |
| F2 (C10-C16)                                     | <100   |           | 100    | ug/L    | 24-JAN-20 | 150  |                  |  |  |  |  |
| F2-Naphth                                        | <100   |           | 100    | ug/L    | 24-JAN-20 |      |                  |  |  |  |  |
| F3 (C16-C34)                                     | <250   |           | 250    | ug/L    | 24-JAN-20 | 500  |                  |  |  |  |  |
| F3-PAH                                           | <250   |           | 250    | ug/L    | 24-JAN-20 |      |                  |  |  |  |  |
| F4 (C34-C50)                                     | <250   |           | 250    | ug/L    | 24-JAN-20 | 500  |                  |  |  |  |  |
| Total Hydrocarbons (C6-C50)                      | <370   |           | 370    | ug/L    | 24-JAN-20 |      |                  |  |  |  |  |
| Chrom. to baseline at nC50                       | YES    |           |        | No Unit | 24-JAN-20 |      |                  |  |  |  |  |
| Surrogate: 2-Bromobenzotrifluoride               | 96.0   |           | 60-140 | %       | 24-JAN-20 |      |                  |  |  |  |  |
| Surrogate: 3,4-Dichlorotoluene                   | 94.6   |           | 60-140 | %       | 24-JAN-20 |      |                  |  |  |  |  |
| Polycyclic Aromatic Hydrocarbons                 |        |           |        |         |           |      |                  |  |  |  |  |
| Acenaphthene                                     | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 4.1  |                  |  |  |  |  |
| Acenaphthylene                                   | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 1    |                  |  |  |  |  |
| Anthracene                                       | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.1  |                  |  |  |  |  |
| Benzo(a)anthracene                               | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.2  |                  |  |  |  |  |
| Benzo(a)pyrene                                   | <0.010 |           | 0.010  | ug/L    | 24-JAN-20 | 0.01 |                  |  |  |  |  |
| Benzo(b)fluoranthene                             | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.1  |                  |  |  |  |  |
| Benzo(g,h,i)perylene                             | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.2  |                  |  |  |  |  |
| Benzo(k)fluoranthene                             | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.1  |                  |  |  |  |  |
| Chrysene                                         | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.1  |                  |  |  |  |  |
| Dibenzo(ah)anthracene                            | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.2  |                  |  |  |  |  |
| Fluoranthene                                     | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.4  |                  |  |  |  |  |
| Fluorene                                         | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 120  |                  |  |  |  |  |
| Indeno(1,2,3-cd)pyrene                           | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.2  |                  |  |  |  |  |
| 1-Methylnaphthalene                              | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 2    |                  |  |  |  |  |
| 2-Methylnaphthalene                              | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 2    |                  |  |  |  |  |
| Naphthalene                                      | <0.050 |           | 0.050  | ug/L    | 24-JAN-20 | 7    |                  |  |  |  |  |
| Phenanthrene                                     | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.1  |                  |  |  |  |  |
| Pyrene                                           | <0.020 |           | 0.020  | ug/L    | 24-JAN-20 | 0.2  |                  |  |  |  |  |
| Surrogate: d10-Acenaphthene                      | 104.0  |           | 60-140 | %       | 24-JAN-20 |      |                  |  |  |  |  |
| Surrogate: d12-Chrysene                          | 128.8  |           | 60-140 | %       | 24-JAN-20 |      |                  |  |  |  |  |
| Surrogate: d8-Naphthalene                        | 100.3  |           | 60-140 | %       | 24-JAN-20 |      |                  |  |  |  |  |
| Surrogate: d10-Phenanthrene                      | 114.5  |           | 60-140 | %       | 24-JAN-20 |      |                  |  |  |  |  |
| L2408835-2 DUP1                                  |        |           |        |         |           |      |                  |  |  |  |  |
| Sampled By: V.PETERS on 23-JAN-20 @ 0            | 9:25   |           |        |         |           |      |                  |  |  |  |  |
| Matrix: WATER                                    |        |           |        |         |           | #1   |                  |  |  |  |  |
| Volatile Organic Compounds                       |        |           |        |         |           |      |                  |  |  |  |  |
|                                                  | .00    |           | 20     | , //    | 04 144 00 | 0700 |                  |  |  |  |  |
| Acetone                                          | <30    |           | 30     | ug/L    | 24-JAN-20 | 2700 |                  |  |  |  |  |
| Benzene                                          | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5  |                  |  |  |  |  |
| Bromodichloromethane                             | <2.0   |           | 2.0    | ug/L    | 24-JAN-20 | 2    |                  |  |  |  |  |
| Bromoform                                        | <5.0   |           | 5.0    | ug/L    | 24-JAN-20 | 5    |                  |  |  |  |  |
| Bromomethane                                     | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.89 |                  |  |  |  |  |
| Carbon tetrachloride                             | <0.20  |           | 0.20   | ug/L    | 24-JAN-20 | 0.2  |                  |  |  |  |  |
| Chlorobenzene                                    | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5  |                  |  |  |  |  |
| Dibromochloromethane                             | <2.0   |           | 2.0    | ug/L    | 24-JAN-20 | 2    |                  |  |  |  |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



L2408835 CONTD....

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| Fage 4 of 8 SE751900 ANALITICAL GUIDELINE REPORT Page 4 of 8 |        |           |        |         |           |     |                  |   |  |  |  |
|--------------------------------------------------------------|--------|-----------|--------|---------|-----------|-----|------------------|---|--|--|--|
| Sample Details Grouping Analyte                              | Result | Qualifier | D.L.   | Units   | Analyzed  |     | Guideline Limits |   |  |  |  |
| ,                                                            |        | Qualifier |        |         | Allalyzeu |     | Odideline Limits |   |  |  |  |
| .2408835-2 DUP1                                              | 20.05  |           |        |         |           |     |                  |   |  |  |  |
| Sampled By: V.PETERS on 23-JAN-20 @ 0                        | 9:25   |           |        |         |           | #1  |                  |   |  |  |  |
| Matrix: WATER                                                |        |           |        |         |           |     |                  | - |  |  |  |
| Volatile Organic Compounds                                   |        |           |        |         |           |     |                  |   |  |  |  |
| Chloroform                                                   | 6.2    |           | 1.0    | ug/L    | 24-JAN-20 | *2  |                  |   |  |  |  |
| 1,2-Dibromoethane                                            | <0.20  |           | 0.20   | ug/L    | 24-JAN-20 | 0.2 |                  |   |  |  |  |
| 1,2-Dichlorobenzene                                          | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| 1,3-Dichlorobenzene                                          | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| 1,4-Dichlorobenzene                                          | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| Dichlorodifluoromethane                                      | <2.0   |           | 2.0    | ug/L    | 24-JAN-20 | 590 |                  |   |  |  |  |
| 1,1-Dichloroethane                                           | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| 1,2-Dichloroethane                                           | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| 1,1-Dichloroethylene                                         | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| cis-1,2-Dichloroethylene                                     | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 1.6 |                  |   |  |  |  |
| trans-1,2-Dichloroethylene                                   | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 1.6 |                  |   |  |  |  |
| Methylene Chloride                                           | <5.0   |           | 5.0    | ug/L    | 24-JAN-20 | 5   |                  |   |  |  |  |
| 1,2-Dichloropropane                                          | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| cis-1,3-Dichloropropene                                      | <0.30  |           | 0.30   | ug/L    | 24-JAN-20 |     |                  |   |  |  |  |
| trans-1,3-Dichloropropene                                    | <0.30  |           | 0.30   | ug/L    | 24-JAN-20 |     |                  |   |  |  |  |
| 1,3-Dichloropropene (cis & trans)                            | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| Ethylbenzene                                                 | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| n-Hexane                                                     | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 5   |                  |   |  |  |  |
| Methyl Ethyl Ketone                                          | <20    |           | 20     | ug/L    | 24-JAN-20 | 400 |                  |   |  |  |  |
| Methyl Isobutyl Ketone                                       | <20    |           | 20     | ug/L    | 24-JAN-20 | 640 |                  |   |  |  |  |
| MTBE                                                         | <2.0   |           | 2.0    | ug/L    | 24-JAN-20 | 15  |                  |   |  |  |  |
| Styrene                                                      | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| 1,1,1,2-Tetrachloroethane                                    | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 1.1 |                  |   |  |  |  |
| 1,1,2,2-Tetrachloroethane                                    | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| Tetrachloroethylene                                          | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| Toluene                                                      | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.8 |                  |   |  |  |  |
| 1,1,1-Trichloroethane                                        | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| 1,1,2-Trichloroethane                                        | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| Trichloroethylene                                            | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| Trichlorofluoromethane                                       | <5.0   |           | 5.0    | ug/L    | 24-JAN-20 | 150 |                  |   |  |  |  |
| Vinyl chloride                                               | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 0.5 |                  |   |  |  |  |
| o-Xylene                                                     | <0.30  |           | 0.30   | ug/L    | 24-JAN-20 |     |                  |   |  |  |  |
| m+p-Xylenes                                                  | <0.40  |           | 0.40   | ug/L    | 24-JAN-20 |     |                  |   |  |  |  |
| Xylenes (Total)                                              | <0.50  |           | 0.50   | ug/L    | 24-JAN-20 | 72  |                  |   |  |  |  |
| Surrogate: 4-Bromofluorobenzene                              | 99.4   |           | 70-130 | %       | 24-JAN-20 |     |                  |   |  |  |  |
| Surrogate: 1,4-Difluorobenzene                               | 102.1  |           | 70-130 | %       | 24-JAN-20 |     |                  |   |  |  |  |
| Hydrocarbons                                                 |        |           |        |         |           |     |                  |   |  |  |  |
| F1 (C6-C10)                                                  | <25    |           | 25     | ug/L    | 24-JAN-20 | 420 |                  |   |  |  |  |
| F1-BTEX                                                      | <25    |           | 25     | ug/L    | 24-JAN-20 | 420 |                  |   |  |  |  |
| F2 (C10-C16)                                                 | <100   |           | 100    | ug/L    | 24-JAN-20 | 150 |                  |   |  |  |  |
| F2-Naphth                                                    | <100   |           | 100    | ug/L    | 24-JAN-20 |     |                  |   |  |  |  |
| F3 (C16-C34)                                                 | <250   |           | 250    | ug/L    | 24-JAN-20 | 500 |                  |   |  |  |  |
| F3-PAH                                                       | <250   |           | 250    | ug/L    | 24-JAN-20 |     |                  |   |  |  |  |
| F4 (C34-C50)                                                 | <250   |           | 250    | ug/L    | 24-JAN-20 | 500 |                  |   |  |  |  |
| Total Hydrocarbons (C6-C50)                                  | <370   |           | 370    | ug/L    | 24-JAN-20 |     |                  |   |  |  |  |
| Chrom. to baseline at nC50                                   | YES    |           |        | No Unit | 24-JAN-20 |     |                  |   |  |  |  |

<sup>\*\*</sup> 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:



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CE751900

|                                                                                                                                                                                             | Sample Details |  |  |  |  |  |  |  |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|--|--|--|--|--|--|--|--|--|
| Grouping Analyte Result Qualifier D.L. Units Analyzed Guideline Limits                                                                                                                      |                |  |  |  |  |  |  |  |  |  |  |
| L2408835-2 DUP1                                                                                                                                                                             |                |  |  |  |  |  |  |  |  |  |  |
| Sampled By: V.PETERS on 23-JAN-20 @ 09:25                                                                                                                                                   |                |  |  |  |  |  |  |  |  |  |  |
| Matrix: WATER #1                                                                                                                                                                            |                |  |  |  |  |  |  |  |  |  |  |
| Hydrocarbons                                                                                                                                                                                |                |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                             |                |  |  |  |  |  |  |  |  |  |  |
| Surrogate: 2-Bromobenzotrifluoride         97.8         60-140         %         24-JAN-20           Surrogate: 3,4-Dichlorotoluene         95.6         60-140         %         24-JAN-20 |                |  |  |  |  |  |  |  |  |  |  |
| Polycyclic Aromatic Hydrocarbons                                                                                                                                                            |                |  |  |  |  |  |  |  |  |  |  |
| Acenaphthene < 0.020   0.020   ug/L 24-JAN-20 4.1                                                                                                                                           |                |  |  |  |  |  |  |  |  |  |  |
| Acenaphthylene                                                                                                                                                                              |                |  |  |  |  |  |  |  |  |  |  |
| Anthracene   <0.020   0.020   ug/L   24-3AN-20   0.1                                                                                                                                        |                |  |  |  |  |  |  |  |  |  |  |
| Senzo(a)anthracene   <0.020   0.020   ug/L   24-JAN-20   0.2                                                                                                                                |                |  |  |  |  |  |  |  |  |  |  |
| Benzo(a)pyrene   <0.010   0.010   ug/L   24-JAN-20   0.01                                                                                                                                   |                |  |  |  |  |  |  |  |  |  |  |
| Benzo(b)fluoranthene   <0.020   0.020   ug/L   24-JAN-20   0.1                                                                                                                              |                |  |  |  |  |  |  |  |  |  |  |
| Benzo(g,h,i)perylene <0.020   0.020   ug/L   24-JAN-20   0.2                                                                                                                                |                |  |  |  |  |  |  |  |  |  |  |
| Benzo(k)fluoranthene   <0.020   0.020   ug/L   24-JAN-20   0.1                                                                                                                              |                |  |  |  |  |  |  |  |  |  |  |
| Chrysene < 0.020   0.020   ug/L   24-JAN-20   0.1                                                                                                                                           |                |  |  |  |  |  |  |  |  |  |  |
| Dibenzo(ah)anthracene   <0.020   0.020   ug/L   24-JAN-20   0.2                                                                                                                             |                |  |  |  |  |  |  |  |  |  |  |
| Fluoranthene < .0.020   0.020   ug/L   24-JAN-20   0.4                                                                                                                                      |                |  |  |  |  |  |  |  |  |  |  |
| Fluorene < .0.020   0.020   ug/L   24-JAN-20   120                                                                                                                                          |                |  |  |  |  |  |  |  |  |  |  |
| Indeno(1,2,3-cd)pyrene <0.020   0.020   ug/L   24-JAN-20   0.2                                                                                                                              |                |  |  |  |  |  |  |  |  |  |  |
| 1+2-Methylnaphthalenes <0.028                                                                                                                                                               |                |  |  |  |  |  |  |  |  |  |  |
| 1-Methylnaphthalene <0.020 0.020 ug/L 24-JAN-20 2                                                                                                                                           |                |  |  |  |  |  |  |  |  |  |  |
| 2-Methylnaphthalene <0.020 0.020 ug/L 24-JAN-20 2                                                                                                                                           |                |  |  |  |  |  |  |  |  |  |  |
| Naphthalene <0.050 0.050 ug/L 24-JAN-20 7                                                                                                                                                   |                |  |  |  |  |  |  |  |  |  |  |
| Phenanthrene <0.020 0.020 ug/L 24-JAN-20 0.1                                                                                                                                                |                |  |  |  |  |  |  |  |  |  |  |
| Pyrene < 0.020   0.020   ug/L   24-JAN-20   0.2                                                                                                                                             |                |  |  |  |  |  |  |  |  |  |  |
| Surrogate: d10-Acenaphthene 103.3 60-140 % 24-JAN-20                                                                                                                                        |                |  |  |  |  |  |  |  |  |  |  |
| Surrogate: d12-Chrysene 131.9 60-140 % 24-JAN-20                                                                                                                                            |                |  |  |  |  |  |  |  |  |  |  |
| Surrogate: d8-Naphthalene 99.8 60-140 % 24-JAN-20                                                                                                                                           |                |  |  |  |  |  |  |  |  |  |  |
| Surrogate: d10-Phenanthrene         113.9         60-140         %         24-JAN-20                                                                                                        |                |  |  |  |  |  |  |  |  |  |  |
| L2408835-3 TB001                                                                                                                                                                            |                |  |  |  |  |  |  |  |  |  |  |
| Sampled By: V.PETERS on 23-JAN-20 @ 09:25                                                                                                                                                   |                |  |  |  |  |  |  |  |  |  |  |
| Matrix: WATER #1                                                                                                                                                                            |                |  |  |  |  |  |  |  |  |  |  |
| Volatile Organic Compounds                                                                                                                                                                  |                |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                             |                |  |  |  |  |  |  |  |  |  |  |
| Acetone   <30   30   ug/L   24-JAN-20   2700                                                                                                                                                |                |  |  |  |  |  |  |  |  |  |  |
| Serizerie   <0.50   0.50   ug/L   24-JAN-20   0.5                                                                                                                                           |                |  |  |  |  |  |  |  |  |  |  |
| Bromoform   <2.0     2.0     ug/L     24-JAN-20     2                                                                                                                                       |                |  |  |  |  |  |  |  |  |  |  |
| Bromomethane   <0.50   0.50   ug/L   24-JAN-20   0.89                                                                                                                                       |                |  |  |  |  |  |  |  |  |  |  |
| Carbon tetrachloride <0.20   0.20   ug/L   24-JAN-20   0.29                                                                                                                                 |                |  |  |  |  |  |  |  |  |  |  |
| Carbon terracinonae                                                                                                                                                                         |                |  |  |  |  |  |  |  |  |  |  |
| Dibromochloromethane   <2.0   2.0   ug/L   24-JAN-20   2                                                                                                                                    |                |  |  |  |  |  |  |  |  |  |  |
| Chloroform < 1.0   1.0   ug/L   24-JAN-20   2                                                                                                                                               |                |  |  |  |  |  |  |  |  |  |  |
| 1,2-Dibromoethane                                                                                                                                                                           |                |  |  |  |  |  |  |  |  |  |  |
| 1,2-Dichlorobenzene < 0.50   0.50   ug/L   24-JAN-20   0.5                                                                                                                                  |                |  |  |  |  |  |  |  |  |  |  |
| 1,3-Dichlorobenzene <0.50   0.50   ug/L   24-JAN-20   0.5                                                                                                                                   |                |  |  |  |  |  |  |  |  |  |  |
| 1,4-Dichlorobenzene <0.50   0.50   ug/L   24-JAN-20   0.5                                                                                                                                   |                |  |  |  |  |  |  |  |  |  |  |
| Dichlorodifluoromethane   <2.0   2.0   ug/L   24-JAN-20   590                                                                                                                               |                |  |  |  |  |  |  |  |  |  |  |
| 1,1-Dichloroethane <0.50                                                                                                                                                                    |                |  |  |  |  |  |  |  |  |  |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



L2408835 CONTD....

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| Sample Details         Resu           Grouping         Analyte         Resu           L2408835-3         TB001         TB001           Sampled By:         V.PETERS on 23-JAN-20 @ 09:25           Matrix:         WATER           Volatile Organic Compounds         0.50           1,2-Dichloroethane         <0.50           1,1-Dichloroethylene         <0.50           cis-1,2-Dichloroethylene         <0.50           Methylene Chloride         <5.0           1,2-Dichloropropane         <0.50           cis-1,3-Dichloropropene         <0.30           trans-1,3-Dichloropropene         <0.30           1,3-Dichloropropene (cis & trans)         <0.50           Ethylbenzene         <0.50           n-Hexane         <0.50           Methyl Ethyl Ketone         <20           Methyl Isobutyl Ketone         <20           MTBE         <2.0           Styrene         <0.50           1,1,2,2-Tetrachloroethane         <0.50           1,2,2-Tetrachloroethane         <0.50           Tetrachloroethylene         <0.50 | ult Qualifier | D.L.         | Units        | Analyzed               |            | Guideline Limits |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------|--------------|------------------------|------------|------------------|
| Sampled By:         V.PETERS on 23-JAN-20 @ 09:25           Matrix:         WATER           Volatile Organic Compounds         .0.50           1,2-Dichloroethane         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |              |              |                        | ш4         |                  |
| Watrix:         WATER           Volatile Organic Compounds         40.50           1,2-Dichloroethane         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |              |              |                        | 44         |                  |
| Matrix:         WATER           Volatile Organic Compounds         40.50           1,2-Dichloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |               |              |              |                        | 44         |                  |
| 1,2-Dichloroethane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |              |              | 1                      | #1         |                  |
| 1,2-Dichloroethane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |               |              |              |                        |            |                  |
| 1,1-Dichloroethylene       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>.</b>      | 0.50         | /1           | 24 IANI 20             | 0.5        |                  |
| cis-1,2-Dichloroethylene       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I             | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                  |
| trans-1,2-Dichloroethylene       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I             | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                  |
| Methylene Chloride         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I             | 0.50         | ug/L         | 24-JAN-20              | 1.6        |                  |
| 1,2-Dichloropropane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               | 0.50         | ug/L         | 24-JAN-20<br>24-JAN-20 | 1.6        |                  |
| cis-1,3-Dichloropropene       <0.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I             | 5.0<br>0.50  | ug/L         | 24-JAN-20<br>24-JAN-20 | 5          |                  |
| trans-1,3-Dichloropropene       <0.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | I             |              | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5        |                  |
| 1,3-Dichloropropene (cis & trans)       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               | 0.30<br>0.30 | ug/L         | 24-JAN-20<br>24-JAN-20 |            |                  |
| Ethylbenzene       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               | 0.50         | ug/L<br>ug/L | 23-JAN-20              | 0.5        |                  |
| n-Hexane       <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               | 0.50         | ug/L<br>ug/L | 23-JAN-20<br>24-JAN-20 | 0.5        |                  |
| Methyl Ethyl Ketone<20Methyl Isobutyl Ketone<20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I             | 0.50         | ug/L<br>ug/L | 24-JAN-20<br>24-JAN-20 | 5          |                  |
| Methyl Isobutyl Ketone         <20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |               | 20           | ug/L         | 24-JAN-20<br>24-JAN-20 | 400        |                  |
| MTBE       <2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               | 20           | ug/L<br>ug/L | 24-JAN-20<br>24-JAN-20 | 640        |                  |
| Styrene <0.50<br>1,1,1,2-Tetrachloroethane <0.50<br>1,1,2,2-Tetrachloroethane <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               | 2.0          | ug/L<br>ug/L | 24-JAN-20<br>24-JAN-20 | 15         |                  |
| 1,1,2-Tetrachloroethane <0.50<br>1,1,2,2-Tetrachloroethane <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | I             | 0.50         | ug/L<br>ug/L | 24-JAN-20<br>24-JAN-20 | 0.5        |                  |
| 1,1,2,2-Tetrachloroethane <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I             | 0.50         | ug/L<br>ug/L | 24-JAN-20<br>24-JAN-20 | 1.1        |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               | 0.50         | _            | 24-JAN-20<br>24-JAN-20 | 0.5        |                  |
| retrachioroethylene   <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               | 0.50         | ug/L         | 24-JAN-20<br>24-JAN-20 |            |                  |
| Toluene <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               | 0.50         | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5<br>0.8 |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I             |              | ug/L         |                        |            |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I             | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I             | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                  |
| Trichloroethylene <0.50 Trichlorofluoromethane <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | I             | 0.50         | ug/L         | 24-JAN-20              | 0.5        |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I             | 5.0<br>0.50  | ug/L         | 24-JAN-20<br>24-JAN-20 | 150        |                  |
| Vinyl chloride <0.50 o-Xylene <0.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               | 0.30         | ug/L         | 24-JAN-20<br>24-JAN-20 | 0.5        |                  |
| m+p-Xylenes <0.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | I             | 0.30         | ug/L<br>ug/L | 24-JAN-20<br>24-JAN-20 |            |                  |
| Xylenes (Total) <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |               | 0.40         | ug/L         | 24-JAN-20              | 72         |                  |
| Surrogate: 4-Bromofluorobenzene 97.7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |               | 70-130       | %            | 24-JAN-20              | 12         |                  |
| Surrogate: 1,4-Difluorobenzene 102.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | I             | 70-130       | %            | 24-JAN-20              |            |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |              |              |                        |            |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |              |              |                        |            |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |              |              |                        |            |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |              |              |                        |            |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |              |              |                        |            |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               | ]            |              | 1                      |            |                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |               |              |              |                        |            |                  |

<sup>\*\*</sup> 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:

#### Reference Information

Methods Listed (if applicable):

| ALS Test Code     | Matrix | Test Description                        | Method Reference***                 |
|-------------------|--------|-----------------------------------------|-------------------------------------|
| 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), 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), 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 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 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).

VOC-1,3-DCP-CALC-WT Water Regulation 153 VOCs SW8260B/SW8270C

VOC-511-HS-WT Water VOC by GCMS HS O.Reg

SW846 8260

153/04 (July 2011)

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), 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-Water **CALCULATION** Sum of Xylene Isomer

Concentrations

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:

17-724434

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:

#### **Reference Information**

| Laboratory Definition Code | Laboratory Location                              | Laboratory Definition Code | Laboratory Location |
|----------------------------|--------------------------------------------------|----------------------------|---------------------|
| WT                         | ALS ENVIRONMENTAL - WATERLOO,<br>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.



Workorder: L2408835 Report Date: 30-JAN-20 Page 1 of 8

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                               |            | Matrix        | Reference   | Result       | Qualifier | Units | RPD | Limit            | Analyzed               |
|------------------------------------|------------|---------------|-------------|--------------|-----------|-------|-----|------------------|------------------------|
| F1-HS-511-WT                       |            | Water         |             |              |           |       |     |                  |                        |
|                                    | 4977978    |               |             |              |           |       |     |                  |                        |
| WG3262145-4                        | DUP        |               | WG3262145-3 |              |           | 4     |     |                  |                        |
| F1 (C6-C10)                        |            |               | <25         | <25          | RPD-NA    | ug/L  | N/A | 30               | 24-JAN-20              |
| <b>WG3262145-1</b><br>F1 (C6-C10)  | LCS        |               |             | 86.9         |           | %     |     | 80-120           | 23-JAN-20              |
| <b>WG3262145-2</b><br>F1 (C6-C10)  | МВ         |               |             | <25          |           | ug/L  |     | 25               | 24-JAN-20              |
| Surrogate: 3,4                     | -Dichlorot | oluene        |             | 95.0         |           | %     |     | 60-140           | 24-JAN-20              |
| WG3262145-5                        | MS         |               | WG3262145-3 |              |           |       |     |                  |                        |
| F1 (C6-C10)                        |            |               |             | 80.8         |           | %     |     | 60-140           | 24-JAN-20              |
| F2-F4-511-WT                       |            | Water         |             |              |           |       |     |                  |                        |
|                                    | 4978499    |               |             |              |           |       |     |                  |                        |
| <b>WG3262507-2</b><br>F2 (C10-C16) | LCS        |               |             | 98.7         |           | %     |     | 70 420           | 24 IANI 20             |
| F3 (C16-C34)                       |            |               |             | 103.8        |           | %     |     | 70-130<br>70-130 | 24-JAN-20<br>24-JAN-20 |
| F4 (C34-C50)                       |            |               |             | 104.2        |           | %     |     | 70-130<br>70-130 | 24-JAN-20<br>24-JAN-20 |
| WG3262507-1                        | MB         |               |             | 101.2        |           | ,,    |     | 70-130           | 24-JAIN-20             |
| F2 (C10-C16)                       |            |               |             | <100         |           | ug/L  |     | 100              | 24-JAN-20              |
| F3 (C16-C34)                       |            |               |             | <250         |           | ug/L  |     | 250              | 24-JAN-20              |
| F4 (C34-C50)                       |            |               |             | <250         |           | ug/L  |     | 250              | 24-JAN-20              |
| Surrogate: 2-B                     | Bromobenz  | zotrifluoride |             | 98.6         |           | %     |     | 60-140           | 24-JAN-20              |
| PAH-511-WT                         |            | Water         |             |              |           |       |     |                  |                        |
| Batch R                            | 4978694    |               |             |              |           |       |     |                  |                        |
| WG3262507-2                        |            |               |             | 07.7         |           | 0/    |     |                  |                        |
| 1-Methylnapht                      |            |               |             | 87.7         |           | %     |     | 50-140           | 24-JAN-20              |
| 2-Methylnapht<br>Acenaphthene      |            |               |             | 85.3<br>97.6 |           | %     |     | 50-140           | 24-JAN-20              |
| Acenaphthyler                      |            |               |             | 100.5        |           | %     |     | 50-140<br>50-140 | 24-JAN-20<br>24-JAN-20 |
| Anthracene                         | 10         |               |             | 115.3        |           | %     |     | 50-140           | 24-JAN-20<br>24-JAN-20 |
| Benzo(a)anthr                      | acene      |               |             | 132.2        |           | %     |     | 50-140           | 24-JAN-20              |
| Benzo(a)pyren                      |            |               |             | 110.5        |           | %     |     | 50-140           | 24-JAN-20              |
| Benzo(b)fluora                     |            |               |             | 101.4        |           | %     |     | 50-140           | 24-JAN-20              |
| Benzo(g,h,i)pe                     |            |               |             | 97.9         |           | %     |     | 50-140           | 24-JAN-20              |
| Benzo(k)fluora                     | -          |               |             | 99.4         |           | %     |     | 50-140           | 24-JAN-20              |
| Chrysene                           |            |               |             | 115.2        |           | %     |     | 50-140           | 24-JAN-20              |
| Dibenzo(ah)ar                      | nthracene  |               |             | 102.1        |           | %     |     | 50-140           | 24-JAN-20              |
| Fluoranthene                       |            |               |             | 104.2        |           | %     |     | 50-140           | 24-JAN-20              |
|                                    |            |               |             |              |           |       |     |                  |                        |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                        | Matrix | Reference                | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------------|--------|--------------------------|--------|-----------|-------|-----|--------|-----------|
| PAH-511-WT                                  | Water  |                          |        |           |       |     |        |           |
| Batch R4978694<br>WG3262507-2 LCS           |        |                          | 400.7  |           | 0/    |     |        |           |
| Fluorene                                    |        |                          | 103.7  |           | %     |     | 50-140 | 24-JAN-20 |
| Indeno(1,2,3-cd)pyrene                      |        |                          | 117.8  |           | %     |     | 50-140 | 24-JAN-20 |
| Naphthalene                                 |        |                          | 87.4   |           | %     |     | 50-140 | 24-JAN-20 |
| Phenanthrene                                |        |                          | 107.3  |           | %     |     | 50-140 | 24-JAN-20 |
| Pyrene                                      |        |                          | 107.4  |           | %     |     | 50-140 | 24-JAN-20 |
| WG3262507-1 MB<br>1-Methylnaphthalene       |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| 2-Methylnaphthalene                         |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Acenaphthene                                |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Acenaphthylene                              |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Anthracene                                  |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Benzo(a)anthracene                          |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Benzo(a)pyrene                              |        |                          | <0.010 |           | ug/L  |     | 0.01   | 24-JAN-20 |
| Benzo(b)fluoranthene                        |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Benzo(g,h,i)perylene                        |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Benzo(k)fluoranthene                        |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Chrysene                                    |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Dibenzo(ah)anthracene                       |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Fluoranthene                                |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Fluorene                                    |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Indeno(1,2,3-cd)pyrene                      |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Naphthalene                                 |        |                          | <0.050 |           | ug/L  |     | 0.05   | 24-JAN-20 |
| Phenanthrene                                |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Pyrene                                      |        |                          | <0.020 |           | ug/L  |     | 0.02   | 24-JAN-20 |
| Surrogate: d8-Naphthale                     | ene    |                          | 97.1   |           | %     |     | 60-140 | 24-JAN-20 |
| Surrogate: d10-Phenant                      | hrene  |                          | 117.4  |           | %     |     | 60-140 | 24-JAN-20 |
| Surrogate: d12-Chrysen                      | е      |                          | 129.6  |           | %     |     | 60-140 | 24-JAN-20 |
| Surrogate: d10-Acenaph                      | nthene |                          | 103.1  |           | %     |     | 60-140 | 24-JAN-20 |
| VOC-511-HS-WT                               | Water  |                          |        |           |       |     |        |           |
| Batch R4977978                              |        |                          |        |           |       |     |        |           |
| WG3262145-4 DUP<br>1,1,1,2-Tetrachloroethai | ne     | <b>WG3262145-3</b> <0.50 | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 24-JAN-20 |
| 1,1,2,2-Tetrachloroetha                     |        | <0.50                    | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 24-JAN-20 |
| 1,1,1-Trichloroethane                       |        | <0.50                    | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 24-JAN-20 |
|                                             |        |                          |        | =         | -     |     |        |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                     | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit | Analyzed  |
|--------------------------|--------|------------|--------|-----------|-------|-----|-------|-----------|
| VOC-511-HS-WT            | Water  |            |        |           |       |     |       |           |
| Batch R4977978           |        |            |        |           |       |     |       |           |
| WG3262145-4 DUP          |        | WG3262145- |        |           | //    |     |       |           |
| 1,1,2-Trichloroethane    |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| 1,1-Dichloroethane       |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| 1,1-Dichloroethylene     |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| 1,2-Dibromoethane        |        | <0.20      | <0.20  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| 1,2-Dichlorobenzene      |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| 1,2-Dichloroethane       |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| 1,2-Dichloropropane      |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| 1,3-Dichlorobenzene      |        | <0.50      | < 0.50 | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| 1,4-Dichlorobenzene      |        | <0.50      | < 0.50 | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Acetone                  |        | <30        | <30    | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Benzene                  |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Bromodichloromethane     | !      | <2.0       | <2.0   | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Bromoform                |        | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Bromomethane             |        | <0.50      | < 0.50 | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Carbon tetrachloride     |        | <0.20      | <0.20  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Chlorobenzene            |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Chloroform               |        | <1.0       | <1.0   | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| cis-1,2-Dichloroethylene | е      | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| cis-1,3-Dichloropropene  | Э      | <0.30      | < 0.30 | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Dibromochloromethane     | •      | <2.0       | <2.0   | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Dichlorodifluoromethan   | е      | <2.0       | <2.0   | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Ethylbenzene             |        | <0.50      | < 0.50 | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| n-Hexane                 |        | 0.64       | 0.64   |           | ug/L  | 0.0 | 30    | 27-JAN-20 |
| m+p-Xylenes              |        | 0.49       | 0.45   |           | ug/L  | 8.5 | 30    | 24-JAN-20 |
| Methyl Ethyl Ketone      |        | <20        | <20    | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Methyl Isobutyl Ketone   |        | <20        | <20    | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Methylene Chloride       |        | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| MTBE                     |        | <2.0       | <2.0   | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| o-Xylene                 |        | <0.30      | <0.30  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Styrene                  |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Tetrachloroethylene      |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| Toluene                  |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30    | 24-JAN-20 |
| trans-1,2-Dichloroethyle | ene    | <0.50      | <0.50  |           | ug/L  |     |       | 24-JAN-20 |
|                          |        |            |        |           |       |     |       |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                       | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                              | Water  |            |        |           |       |     |        |           |
| Batch R4977978                             |        |            |        |           |       |     |        |           |
| WG3262145-4 DUP                            |        | WG3262145- |        |           |       |     |        |           |
| trans-1,2-Dichloroethyle                   |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 24-JAN-20 |
| trans-1,3-Dichloroprope                    | ne     | <0.30      | < 0.30 | RPD-NA    | ug/L  | N/A | 30     | 24-JAN-20 |
| Trichloroethylene                          |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 24-JAN-20 |
| Trichlorofluoromethane                     |        | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A | 30     | 24-JAN-20 |
| Vinyl chloride                             |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 24-JAN-20 |
| WG3262145-1 LCS<br>1,1,1,2-Tetrachloroetha | ne     |            | 98.6   |           | %     |     | 70-130 | 23-JAN-20 |
| 1,1,2,2-Tetrachloroetha                    | ne     |            | 104.9  |           | %     |     | 70-130 | 23-JAN-20 |
| 1,1,1-Trichloroethane                      |        |            | 98.9   |           | %     |     | 70-130 | 23-JAN-20 |
| 1,1,2-Trichloroethane                      |        |            | 101.2  |           | %     |     | 70-130 | 23-JAN-20 |
| 1,1-Dichloroethane                         |        |            | 99.5   |           | %     |     | 70-130 | 23-JAN-20 |
| 1,1-Dichloroethylene                       |        |            | 95.3   |           | %     |     | 70-130 | 23-JAN-20 |
| 1,2-Dibromoethane                          |        |            | 104.1  |           | %     |     | 70-130 | 23-JAN-20 |
| 1,2-Dichlorobenzene                        |        |            | 97.4   |           | %     |     | 70-130 | 23-JAN-20 |
| 1,2-Dichloroethane                         |        |            | 102.1  |           | %     |     | 70-130 | 23-JAN-20 |
| 1,2-Dichloropropane                        |        |            | 102.0  |           | %     |     | 70-130 | 23-JAN-20 |
| 1,3-Dichlorobenzene                        |        |            | 95.5   |           | %     |     | 70-130 | 23-JAN-20 |
| 1,4-Dichlorobenzene                        |        |            | 95.4   |           | %     |     | 70-130 | 23-JAN-20 |
| Acetone                                    |        |            | 110.6  |           | %     |     | 60-140 | 23-JAN-20 |
| Benzene                                    |        |            | 103.0  |           | %     |     | 70-130 | 23-JAN-20 |
| Bromodichloromethane                       |        |            | 101.0  |           | %     |     | 70-130 | 23-JAN-20 |
| Bromoform                                  |        |            | 101.0  |           | %     |     | 70-130 | 23-JAN-20 |
| Bromomethane                               |        |            | 92.5   |           | %     |     | 60-140 | 23-JAN-20 |
| Carbon tetrachloride                       |        |            | 96.2   |           | %     |     | 70-130 | 23-JAN-20 |
| Chlorobenzene                              |        |            | 98.5   |           | %     |     | 70-130 | 23-JAN-20 |
| Chloroform                                 |        |            | 100.6  |           | %     |     | 70-130 | 23-JAN-20 |
| cis-1,2-Dichloroethylene                   | •      |            | 93.3   |           | %     |     | 70-130 | 23-JAN-20 |
| cis-1,3-Dichloropropene                    |        |            | 97.3   |           | %     |     | 70-130 | 23-JAN-20 |
| Dibromochloromethane                       |        |            | 98.9   |           | %     |     | 70-130 | 23-JAN-20 |
| Dichlorodifluoromethane                    | e      |            | 110.4  |           | %     |     | 50-140 | 23-JAN-20 |
| Ethylbenzene                               |        |            | 95.8   |           | %     |     | 70-130 | 23-JAN-20 |
| n-Hexane                                   |        |            | 92.8   |           | %     |     | 70-130 | 23-JAN-20 |
| m+p-Xylenes                                |        |            | 97.4   |           | %     |     | 70-130 | 23-JAN-20 |
|                                            |        |            |        |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                       | Matrix | Reference | Result         | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------|--------|-----------|----------------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                              | Water  |           |                |           |       |     |        |           |
| Batch R4977978                             |        |           |                |           |       |     |        |           |
| WG3262145-1 LCS                            |        |           | 400.0          |           | 0/    |     |        |           |
| Methyl Isobutyl Ketone                     |        |           | 106.2<br>101.2 |           | %     |     | 60-140 | 23-JAN-20 |
| Methylana Chlorida                         |        |           |                |           |       |     | 60-140 | 23-JAN-20 |
| Methylene Chloride                         |        |           | 98.3           |           | %     |     | 70-130 | 23-JAN-20 |
| MTBE                                       |        |           | 98.9           |           | %     |     | 70-130 | 23-JAN-20 |
| o-Xylene                                   |        |           | 97.2           |           | %     |     | 70-130 | 23-JAN-20 |
| Styrene                                    |        |           | 99.0           |           | %     |     | 70-130 | 23-JAN-20 |
| Tetrachloroethylene                        |        |           | 97.6           |           | %     |     | 70-130 | 23-JAN-20 |
| Toluene                                    |        |           | 99.4           |           | %     |     | 70-130 | 23-JAN-20 |
| trans-1,2-Dichloroethyle                   |        |           | 95.5           |           | %     |     | 70-130 | 23-JAN-20 |
| trans-1,3-Dichloroprope                    | ne     |           | 99.6           |           | %     |     | 70-130 | 23-JAN-20 |
| Trichloroethylene                          |        |           | 96.7           |           | %     |     | 70-130 | 23-JAN-20 |
| Trichlorofluoromethane                     |        |           | 97.8           |           | %     |     | 60-140 | 23-JAN-20 |
| Vinyl chloride                             |        |           | 113.7          |           | %     |     | 60-140 | 23-JAN-20 |
| WG3262145-2 MB<br>1,1,1,2-Tetrachloroethar | ne     |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,1,2,2-Tetrachloroethar                   | ne     |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,1,1-Trichloroethane                      |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,1,2-Trichloroethane                      |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,1-Dichloroethane                         |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,1-Dichloroethylene                       |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,2-Dibromoethane                          |        |           | <0.20          |           | ug/L  |     | 0.2    | 24-JAN-20 |
| 1,2-Dichlorobenzene                        |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,2-Dichloroethane                         |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,2-Dichloropropane                        |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,3-Dichlorobenzene                        |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| 1,4-Dichlorobenzene                        |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| Acetone                                    |        |           | <30            |           | ug/L  |     | 30     | 24-JAN-20 |
| Benzene                                    |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| Bromodichloromethane                       |        |           | <2.0           |           | ug/L  |     | 2      | 24-JAN-20 |
| Bromoform                                  |        |           | <5.0           |           | ug/L  |     | 5      | 24-JAN-20 |
| Bromomethane                               |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| Carbon tetrachloride                       |        |           | <0.20          |           | ug/L  |     | 0.2    | 24-JAN-20 |
| Chlorobenzene                              |        |           | <0.50          |           | ug/L  |     | 0.5    | 24-JAN-20 |
| Chloroform                                 |        |           | <1.0           |           | ug/L  |     | 1      | 24-JAN-20 |
|                                            |        |           |                |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Test                      | Matrix | Reference    | Result | Qualifier | Units | RPD | Limit  | Analyzed   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------|--------------|--------|-----------|-------|-----|--------|------------|
| WG3262145.2 MB   cis-1.2-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.30   ug/L   0.3   24-JAN-20   cis-1.3-Dichloroethylene   <0.30   ug/L   2   24-JAN-20   cis-1.3-Dichloroethylene   <2.0   ug/L   2   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-JAN-20   cis-1.3-Dichloroethylene   <0.50   ug/L   0.5   24-J | VOC-511-HS-WT             | Water  |              |        |           |       |     |        |            |
| cis-1,2-Dichloroerthylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Batch R4977978            |        |              |        |           |       |     |        |            |
| Cis-1,3-Dichloropropene   Co.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |        |              | -0 E0  |           | ug/l  |     | 0.5    | 04 1411 00 |
| Dibromochloromethane   <2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | •                         |        |              |        |           |       |     |        |            |
| Dichlorodifluoromethane         <2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |        |              |        |           |       |     |        |            |
| Ethylbenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |        |              |        |           |       |     |        |            |
| n-Hexane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |        |              |        |           |       |     |        |            |
| m+p-Xylenes         <0.40         ug/L         0.4         24-JAN-20           Methyl Ethyl Ketone         <20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | •                         |        |              |        |           |       |     |        |            |
| Methyl Ethyl Ketone         <20         ug/L         20         24-JAN-20           Methyle Sobutyl Ketone         <20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |        |              |        |           |       |     |        |            |
| Methyl Isobutyl Ketone         <20         ug/L         20         24-JAN-20           Methylene Chloride         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |        |              |        |           |       |     |        |            |
| Methylene Chloride         <5.0         ug/L         5         24-JAN-20           MTBE         <2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |        |              |        |           |       |     |        |            |
| MTBE         <2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |        |              |        |           |       |     |        |            |
| o-Xylene         <0.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | •                         |        |              |        |           |       |     |        |            |
| Styrene         <0.50         ug/L         0.5         24-JAN-20           Tetrachloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |        |              |        |           |       |     |        |            |
| Tetrachloroethylene         <0.50         ug/L         0.5         24-JAN-20           Toluene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | •                         |        |              |        |           |       |     |        |            |
| Toluene         <0.50         ug/L         0.5         24-JAN-20           trans-1,2-Dichloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | •                         |        |              |        |           |       |     |        |            |
| trans-1,2-Dichloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -                         |        |              |        |           |       |     |        |            |
| trans-1,3-Dichloropropene         <0.30         ug/L         0.3         24-JAN-20           Trichloroethylene         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           | 7      |              |        |           |       |     |        |            |
| Trichloroethylene         <0.50         ug/L         0.5         24-JAN-20           Trichlorofluoromethane         <5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | •                         |        |              |        |           |       |     |        |            |
| Trichlorofluoromethane         <5.0         ug/L         5         24-JAN-20           Vinyl chloride         <0.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           | •      |              |        |           |       |     |        |            |
| Vinyl chloride         <0.50         ug/L         0.5         24-JAN-20           Surrogate: 1,4-Difluorobenzene         102.4         %         70-130         24-JAN-20           Surrogate: 4-Bromofluorobenzene         96.7         %         70-130         24-JAN-20           WG3262145-5         MS         WG3262145-3         **         **         50-140         24-JAN-20           1,1,2-Tetrachloroethane         97.3         %         50-140         24-JAN-20           1,1,2-Tetrachloroethane         99.3         %         50-140         24-JAN-20           1,1,1-Trichloroethane         100.2         %         50-140         24-JAN-20           1,1,2-Trichloroethane         92.6         %         50-140         24-JAN-20           1,1-Dichloroethane         98.1         %         50-140         24-JAN-20           1,1-Dichloroethylene         95.9         %         50-140         24-JAN-20           1,2-Dichloroethane         93.1         %         50-140         24-JAN-20           1,2-Dichloroethane         97.0         %         50-140         24-JAN-20           1,2-Dichloroethane         92.0         %         50-140         24-JAN-20           1,2-Dichloroethane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | •                         |        |              |        |           |       |     |        |            |
| Surrogate: 1,4-Difluorobenzene       102.4       %       70-130       24-JAN-20         Surrogate: 4-Bromofluorobenzene       96.7       %       70-130       24-JAN-20         WG3262145-5 MS       WG3262145-3         1,1,1,2-Tetrachloroethane       97.3       %       50-140       24-JAN-20         1,1,2,2-Tetrachloroethane       99.3       %       50-140       24-JAN-20         1,1,1-Trichloroethane       100.2       %       50-140       24-JAN-20         1,1,2-Trichloroethane       92.6       %       50-140       24-JAN-20         1,1-Dichloroethane       98.1       %       50-140       24-JAN-20         1,1-Dichloroethane       95.9       %       50-140       24-JAN-20         1,2-Dibromoethane       93.1       %       50-140       24-JAN-20         1,2-Dichlorobenzene       97.0       %       50-140       24-JAN-20         1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |        |              |        |           |       |     |        |            |
| Surrogate: 4-Bromofluorobenzene       96.7       %       70-130       24-JAN-20         WG3262145-5       MS       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3       WG3262145-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | •                         | nzene  |              |        |           |       |     |        |            |
| WG3262145-5       MS       WG3262145-3         1,1,1,2-Tetrachloroethane       97.3       %       50-140       24-JAN-20         1,1,2,2-Tetrachloroethane       99.3       %       50-140       24-JAN-20         1,1,1-Trichloroethane       100.2       %       50-140       24-JAN-20         1,1,2-Trichloroethane       92.6       %       50-140       24-JAN-20         1,1-Dichloroethane       98.1       %       50-140       24-JAN-20         1,1-Dichloroethylene       95.9       %       50-140       24-JAN-20         1,2-Dibromoethane       93.1       %       50-140       24-JAN-20         1,2-Dichlorobenzene       97.0       %       50-140       24-JAN-20         1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | _                         |        |              |        |           |       |     |        |            |
| 1,1,1,2-Tetrachloroethane       97.3       %       50-140       24-JAN-20         1,1,2,2-Tetrachloroethane       99.3       %       50-140       24-JAN-20         1,1,1-Trichloroethane       100.2       %       50-140       24-JAN-20         1,1,2-Trichloroethane       92.6       %       50-140       24-JAN-20         1,1-Dichloroethane       98.1       %       50-140       24-JAN-20         1,1-Dichloroethylene       95.9       %       50-140       24-JAN-20         1,2-Dibromoethane       93.1       %       50-140       24-JAN-20         1,2-Dichlorobenzene       97.0       %       50-140       24-JAN-20         1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _                         |        | WG3262145-3  |        |           |       |     |        | 24 0/11/20 |
| 1,1,1-Trichloroethane       100.2       %       50-140       24-JAN-20         1,1,2-Trichloroethane       92.6       %       50-140       24-JAN-20         1,1-Dichloroethane       98.1       %       50-140       24-JAN-20         1,1-Dichloroethylene       95.9       %       50-140       24-JAN-20         1,2-Dibromoethane       93.1       %       50-140       24-JAN-20         1,2-Dichlorobenzene       97.0       %       50-140       24-JAN-20         1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |        | 1100202140 0 |        |           | %     |     | 50-140 | 24-JAN-20  |
| 1,1,2-Trichloroethane       92.6       %       50-140       24-JAN-20         1,1-Dichloroethane       98.1       %       50-140       24-JAN-20         1,1-Dichloroethylene       95.9       %       50-140       24-JAN-20         1,2-Dibromoethane       93.1       %       50-140       24-JAN-20         1,2-Dichlorobenzene       97.0       %       50-140       24-JAN-20         1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1,1,2,2-Tetrachloroethane |        |              | 99.3   |           | %     |     | 50-140 | 24-JAN-20  |
| 1,1-Dichloroethane       98.1       %       50-140       24-JAN-20         1,1-Dichloroethylene       95.9       %       50-140       24-JAN-20         1,2-Dibromoethane       93.1       %       50-140       24-JAN-20         1,2-Dichlorobenzene       97.0       %       50-140       24-JAN-20         1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1,1,1-Trichloroethane     |        |              | 100.2  |           | %     |     | 50-140 | 24-JAN-20  |
| 1,1-Dichloroethylene       95.9       %       50-140       24-JAN-20         1,2-Dibromoethane       93.1       %       50-140       24-JAN-20         1,2-Dichlorobenzene       97.0       %       50-140       24-JAN-20         1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1,1,2-Trichloroethane     |        |              | 92.6   |           | %     |     | 50-140 | 24-JAN-20  |
| 1,2-Dibromoethane       93.1       %       50-140       24-JAN-20         1,2-Dichlorobenzene       97.0       %       50-140       24-JAN-20         1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1,1-Dichloroethane        |        |              | 98.1   |           | %     |     | 50-140 | 24-JAN-20  |
| 1,2-Dichlorobenzene       97.0       %       50-140       24-JAN-20         1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1,1-Dichloroethylene      |        |              | 95.9   |           | %     |     | 50-140 | 24-JAN-20  |
| 1,2-Dichloroethane       92.0       %       50-140       24-JAN-20         1,2-Dichloropropane       98.0       %       50-140       24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1,2-Dibromoethane         |        |              | 93.1   |           | %     |     | 50-140 | 24-JAN-20  |
| 1,2-Dichloropropane 98.0 % 50-140 24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1,2-Dichlorobenzene       |        |              | 97.0   |           | %     |     | 50-140 | 24-JAN-20  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,2-Dichloroethane        |        |              | 92.0   |           | %     |     | 50-140 | 24-JAN-20  |
| 1,3-Dichlorobenzene 99.0 % 50-140 24-JAN-20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1,2-Dichloropropane       |        |              | 98.0   |           | %     |     | 50-140 | 24-JAN-20  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1,3-Dichlorobenzene       |        |              | 99.0   |           | %     |     | 50-140 | 24-JAN-20  |



Workorder: L2408835 Report Date: 30-JAN-20 Page 7 of 8

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                      | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit            | Analyzed  |
|---------------------------|--------|------------|--------|-----------|-------|-----|------------------|-----------|
| VOC-511-HS-WT             | Water  |            |        |           |       |     |                  |           |
| Batch R4977978            |        |            |        |           |       |     |                  |           |
| WG3262145-5 MS            |        | WG3262145- |        |           |       |     |                  |           |
| 1,4-Dichlorobenzene       |        |            | 98.5   |           | %     |     | 50-140           | 24-JAN-20 |
| Acetone                   |        |            | 79.6   |           | %     |     | 50-140           | 24-JAN-20 |
| Benzene                   |        |            | 101.5  |           | %     |     | 50-140           | 24-JAN-20 |
| Bromodichloromethane      |        |            | 95.6   |           | %     |     | 50-140           | 24-JAN-20 |
| Bromoform                 |        |            | 89.9   |           | %     |     | 50-140           | 24-JAN-20 |
| Bromomethane              |        |            | 87.0   |           | %     |     | 50-140           | 24-JAN-20 |
| Carbon tetrachloride      |        |            | 98.5   |           | %     |     | 50-140           | 24-JAN-20 |
| Chlorobenzene             |        |            | 98.8   |           | %     |     | 50-140           | 24-JAN-20 |
| Chloroform                |        |            | 97.9   |           | %     |     | 50-140           | 24-JAN-20 |
| cis-1,2-Dichloroethylene  |        |            | 90.0   |           | %     |     | 50-140           | 24-JAN-20 |
| cis-1,3-Dichloropropene   |        |            | 94.4   |           | %     |     | 50-140           | 24-JAN-20 |
| Dibromochloromethane      |        |            | 91.3   |           | %     |     | 50-140           | 24-JAN-20 |
| Dichlorodifluoromethane   |        |            | 103.4  |           | %     |     | 50-140           | 24-JAN-20 |
| Ethylbenzene              |        |            | 99.7   |           | %     |     | 50-140           | 24-JAN-20 |
| n-Hexane                  |        |            | 94.1   |           | %     |     | 50-140           | 24-JAN-20 |
| m+p-Xylenes               |        |            | 100.9  |           | %     |     | 50-140           | 24-JAN-20 |
| Methyl Ethyl Ketone       |        |            | 84.9   |           | %     |     | 50-140           | 24-JAN-20 |
| Methyl Isobutyl Ketone    |        |            | 85.2   |           | %     |     | 50-140           | 24-JAN-20 |
| Methylene Chloride        |        |            | 91.6   |           | %     |     | 50-140           | 24-JAN-20 |
| MTBE                      |        |            | 99.9   |           | %     |     | 50-140           | 24-JAN-20 |
| o-Xylene                  |        |            | 99.3   |           | %     |     | 50-140           | 24-JAN-20 |
| Styrene                   |        |            | 98.7   |           | %     |     | 50-140           | 24-JAN-20 |
| Tetrachloroethylene       |        |            | 102.9  |           | %     |     | 50-140           | 24-JAN-20 |
| Toluene                   |        |            | 101.6  |           | %     |     | 50-140           | 24-JAN-20 |
| trans-1,2-Dichloroethyler | ne     |            | 96.6   |           | %     |     | 50-140           | 24-JAN-20 |
| trans-1,3-Dichloropropen  | ie     |            | 95.9   |           | %     |     | 50-140           | 24-JAN-20 |
| Trichloroethylene         |        |            | 99.0   |           | %     |     | 50-140           | 24-JAN-20 |
| Trichlorofluoromethane    |        |            | 98.3   |           | %     |     | 50-140           | 24-JAN-20 |
| Vinyl chloride            |        |            | 110.6  |           | %     |     | 50-140           | 24-JAN-20 |
| -                         |        |            |        |           |       |     | · · <del>-</del> |           |

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Workorder: L2408835 Report Date: 30-JAN-20

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

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.

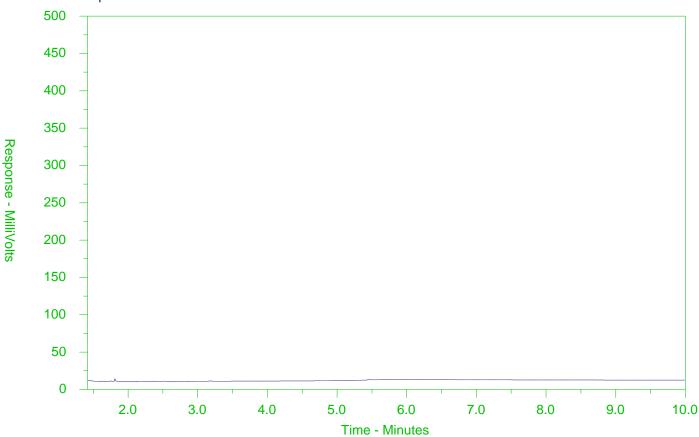
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide 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: L2408835-1 Client Sample ID: MW112



| <b>←</b> -F2-    | →←          | _F3F4- | <b>→</b>                     |   |
|------------------|-------------|--------|------------------------------|---|
| nC10             | nC16        | nC34   | nC50                         |   |
| 174°C            | 287°C       | 481°C  | 575°C                        |   |
| 346°F            | 549°F       | 898°F  | 1067°F                       |   |
| Gasoline → ← Mot |             |        | tor Oils/Lube Oils/Grease——— | - |
| <b>←</b>         | -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.

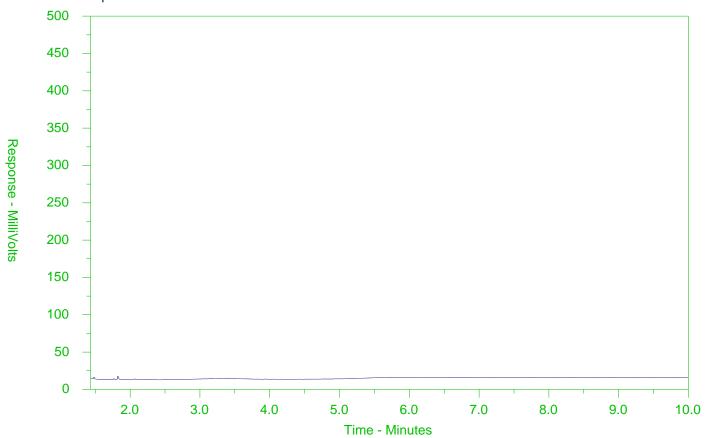
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.

#### CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2408835-2 Client Sample ID: DUP1



| <b>←</b> -F2-        | → ←   | —F3——◆4—F4- | <b>→</b>                    |   |  |  |
|----------------------|-------|-------------|-----------------------------|---|--|--|
| nC10                 | nC16  | nC34        | nC50                        |   |  |  |
| 174°C                | 287°C | 481°C       | 575°C                       |   |  |  |
| 346°F                | 549°F | 898°F       | 1067°F                      |   |  |  |
| Gasoline → ← Mo      |       |             | otor 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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.

# Environmental

#### Chain of Custody (COC) / Analytical Request Form

Canada Toli Free: 1 800 668 9878



L2408835-COFC

COC Number 17-724434

|                      | www.alsolobal.com                                |                      |                       |                                                                                                                                                         |                          |                                                  |                                                                                                          |                                              | Or -                          | I             | ند<br>مام 19 س |                  | to at sec    | or AU h   | e confle       | n ell FA         | P TATE A      | aurchere       | ars may                    | apph         | ٧1              |                                               |
|----------------------|--------------------------------------------------|----------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------------------|-------------------------------|---------------|----------------|------------------|--------------|-----------|----------------|------------------|---------------|----------------|----------------------------|--------------|-----------------|-----------------------------------------------|
| Report To            | Contact and company name below will appea        | on the final report  |                       | Report Format /                                                                                                                                         |                          |                                                  | Select Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply)  Regular [R] |                                              |                               |               |                |                  |              |           |                |                  |               |                |                            |              |                 |                                               |
| Company:             | Jacobs                                           |                      | Select Report For     |                                                                                                                                                         | X EXZE X                 |                                                  | - 1                                                                                                      | _ <u> </u>                                   |                               |               | - Albert       | Sero Paril       | _            | _         | _              |                  |               | dura carbai    |                            | _            |                 | ᇳ                                             |
| Contact:             | Michael Shiry                                    |                      |                       | QC) Report with Repo                                                                                                                                    | ,                        | [ \ <b>V</b> O                                   | 1 Business day (E-100%)                                                                                  |                                              |                               |               |                |                  |              |           |                | _                |               |                |                            |              |                 |                                               |
| Phone:               | 519-3500                                         |                      | -                     | its to Criteria on Report - p                                                                                                                           |                          |                                                  | \$\frac{3}{5} \frac{1}{5} \frac{3}{5} \text{day [P3-25%]}                                                |                                              |                               |               |                |                  |              |           |                | Γ                |               |                |                            |              |                 |                                               |
|                      | Company address below will appear on the final   |                      | Select Distribution   |                                                                                                                                                         | MAIL                     |                                                  |                                                                                                          |                                              |                               |               |                |                  |              |           |                |                  | _             |                |                            |              |                 |                                               |
| Street:              | 12 Victoria St. S.S                              | <u>ueta 300</u>      | Email for Fax (       | Email or fax Michael, Shry@ 10005, com                                                                                                                  |                          |                                                  |                                                                                                          |                                              | The transfer for at REP TATe: |               |                |                  |              |           |                |                  |               |                |                            | _            |                 |                                               |
| Chy/Province.        | kitchener ON                                     |                      | Email2 ⊖∂.            | tave 50                                                                                                                                                 | إجددتود                  | COM                                              | For tasks that can not be performed according to the service lens salected, you will be contected.       |                                              |                               |               |                |                  |              |           |                |                  |               |                |                            |              |                 |                                               |
| Postal Code:         | NZG 449 10                                       |                      | Email 3-10-10         | a micin                                                                                                                                                 |                          | ja cobb G                                        | Analysis Request  Indicate Fillured (F), Proscrived IP) or Filhered and Preserved IF(F) below            |                                              |                               |               |                |                  |              |           |                |                  |               | -              |                            |              |                 |                                               |
| Invoice To           | Same as Recort To YES                            | ] NO                 |                       | Invoice Dis                                                                                                                                             | tripogou <sub>)</sub>    |                                                  | <u> </u>                                                                                                 |                                              | lex<br>                       | dicate Fills  | wed (F).       | Preserve:        | IIP≯orF      | ihered ar | id Preserv     | wed (FiP)        | below.        | <del>, ,</del> | -                          |              | da ta           |                                               |
| -                    | Copy of invoice with Report X YES                | l MO                 | Select Invoice Dr     | stribution Ek                                                                                                                                           | MAIL MAIL                | FAX                                              | ρ                                                                                                        | <u>P</u>                                     | P                             | $\rightarrow$ |                |                  | ┷            | oxdot     | <u> </u>       |                  | +             | ┷┦             | -                          | ١            | 퉏               |                                               |
| Company:             | Jacobs                                           |                      | Email 1 or Fax        |                                                                                                                                                         |                          |                                                  | ]                                                                                                        |                                              |                               |               | -1             | ļ                |              |           |                |                  |               |                |                            |              | <b>§</b> [      | , !                                           |
| Contact:             | Accounts Paux                                    | م لا ا               | Email 2               |                                                                                                                                                         |                          |                                                  | l×                                                                                                       |                                              | l                             |               |                |                  |              |           |                |                  | 1             | 1              |                            |              | 9               | i                                             |
|                      | Project Information                              |                      | 1. 人名格特克              | ngasatan meng <b>ipangan</b> an dalam<br>Jawa salah mengangan dalam salah salah salah salah salah salah salah salah salah salah salah salah salah salah | green and growing before | 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1         | &TEX                                                                                                     |                                              | ĺ                             |               |                | 1                | 1            |           | . 1            |                  |               |                |                            |              | ğ               | ı                                             |
| ALS Account # .      | (Quote#: Q72980                                  | <u> </u>             | AFE/Cost Certier      |                                                                                                                                                         | PO#                      |                                                  | ]å(∂                                                                                                     |                                              |                               |               |                |                  |              |           |                | i                |               | 1 1            |                            |              | \$              |                                               |
| Job#:                | CE751900                                         |                      | MajorMino: Code       |                                                                                                                                                         | Routing Code:            |                                                  | اجرا                                                                                                     | ı                                            | - 1                           |               | ļ              |                  | 1            |           |                |                  |               |                | . 1                        | - 1          | <u>ا</u> چ      | Ü                                             |
| PO/AFE               | <u> </u>                                         |                      | Requisitioner:        |                                                                                                                                                         |                          |                                                  | 1                                                                                                        |                                              |                               | 1             |                |                  |              | j         |                | - 1              | 1             | 1              |                            | ا ہ          | ŝ               | <u>₹</u>                                      |
| LSD.                 |                                                  |                      | Location.             |                                                                                                                                                         | · <u> </u>               | _                                                | 4                                                                                                        |                                              |                               |               | -              |                  |              |           |                |                  | -             |                |                            | 호            | 됩               | OF CONTAINERS                                 |
|                      | 1 - N - S                                        | -O-111               |                       | _                                                                                                                                                       |                          | 0.12.6                                           | $\exists$                                                                                                | N                                            |                               |               |                | İ                |              |           |                |                  |               | 1              |                            | 8            | 2               | ĕ                                             |
| ALS Lab Wo           | rk Order # (lab use only): L A ( )               | 58.40 KM             | ALS Contact:          |                                                                                                                                                         | Sampler: 🗸 ,             | 121013                                           | 1 -                                                                                                      | 土                                            | S                             |               |                |                  | ļ            |           |                |                  |               |                | . !                        | 8            | -               |                                               |
| ALS Semple #         | Sample Identification                            | and/or Coordinates   | •                     | Date                                                                                                                                                    | Time                     |                                                  | 훈                                                                                                        | PAH                                          | Y <sub>0</sub> C              |               |                |                  | ]            |           | <b>\</b>       | ſ                |               | 1              | . i                        | SAMPLES      | Sample          | NUMBER                                        |
| (less use only)      | (This description will a                         |                      |                       | (dd-mmm-yy)                                                                                                                                             | (hh:mm)                  | Sample Type                                      | <b>←</b>                                                                                                 | 4                                            |                               |               |                |                  | $\perp$      |           |                |                  |               | ↓              | ightharpoonup              | \$           | 8               |                                               |
|                      | MWII2                                            |                      |                       | 23-01-2020                                                                                                                                              | 9:25                     | Water                                            | X                                                                                                        | $\langle \mathbf{x}  $                       | X                             | F- 1          | [              |                  |              | [<br>     |                |                  | Ì             |                | Ш                          |              |                 | 4                                             |
|                      | DUP                                              | •                    |                       | 23-01-226                                                                                                                                               |                          | water                                            | X                                                                                                        | X                                            | Х                             |               | $\neg$         | _ <del> </del> _ |              | T -       |                | _                |               | T              | ,                          |              |                 | Цį                                            |
|                      | <del> </del>                                     |                      |                       | <u> </u>                                                                                                                                                | <del>'</del>             | QC                                               | <del>  ^``</del>                                                                                         | <b> </b>                                     | V                             |               |                | 寸                | <del> </del> | 1         |                |                  | _             | 1              | $\Box$                     |              |                 | 7                                             |
|                      | 7B001                                            |                      |                       | <u> </u>                                                                                                                                                | <u> </u>                 | + <del>u</del> vc                                | <b>├-</b> -                                                                                              | ┞                                            | ^                             | $\vdash$      | <del></del>    | +                | ╅-           | +         | +              | -                | +             | +              | $\vdash$                   | 7            |                 |                                               |
|                      |                                                  |                      |                       | ļ. <u> </u>                                                                                                                                             | ļ                        | _                                                | —                                                                                                        | <del> -</del>                                |                               | $\vdash$      | -              | -                | ┼            | +         | <del>   </del> | <del>-  -</del>  | ╅             | +-             | ┌╌╋                        | <del> </del> |                 | ⊢                                             |
|                      |                                                  |                      |                       | İ                                                                                                                                                       |                          | <u> </u>                                         | <u> </u>                                                                                                 | <u>                                     </u> |                               | $\vdash$      | ∔-             | _                |              | <u> </u>  | ┷              | _                | $\rightarrow$ |                | $\vdash$                   | - ⋅ŀ         |                 | $\vdash$                                      |
|                      | <del></del> -                                    |                      |                       |                                                                                                                                                         |                          | 1                                                | ]                                                                                                        |                                              |                               |               | _ ļ            |                  |              | 1         | <u> </u>       |                  |               | ┷              | $\displaystyle\longmapsto$ |              |                 | <b>⊢</b> -                                    |
|                      |                                                  |                      |                       |                                                                                                                                                         |                          |                                                  |                                                                                                          | ļП                                           |                               | ΓΙ            |                |                  |              |           |                |                  |               | l              |                            |              |                 | _                                             |
|                      | <del>                                     </del> |                      |                       | ···-                                                                                                                                                    |                          | <del>                                     </del> | T                                                                                                        |                                              |                               |               | $\neg$         | <u> </u>         | $\top$       | 1         | П              | Т                |               | $\top$         |                            | - 1          |                 |                                               |
|                      |                                                  |                      |                       | +                                                                                                                                                       | <del> </del> -           | <del></del>                                      | +                                                                                                        | $\vdash$                                     | _                             | $\vdash$      | -+             | $\dashv$         | +-           | +         | $\vdash$       | <del>-  </del> - | $\neg$        | <del> </del>   |                            | 1            |                 | 1                                             |
|                      |                                                  | ••••                 |                       | <del> </del> -                                                                                                                                          | . —                      | -1.                                              | +-                                                                                                       | $\vdash$                                     | $\vdash$                      | $\vdash$      | <del></del> -  | $\dashv$         | +-           | +         | 1 1            | -+               | ┿             | +              | <del>- +</del>             | $\dashv$     |                 | <del>  -</del>                                |
|                      |                                                  |                      |                       |                                                                                                                                                         |                          | _                                                | ↓                                                                                                        | Ļ.,                                          |                               | 1             | _+             | _                | +            | <b>↓</b>  | +              | $\rightarrow$    | <del></del> - | +-             | <del>├</del> ─╋            | $\dashv$     | -               | ₩                                             |
|                      |                                                  |                      |                       |                                                                                                                                                         | ļ                        |                                                  | !                                                                                                        | _                                            | <u> </u>                      | $\sqcup$      |                |                  | $\perp$      |           | $oxed{oxed}$   |                  |               | -              | ₩                          | _            |                 | Ļ                                             |
|                      | <u> </u>                                         |                      |                       |                                                                                                                                                         |                          | 1                                                |                                                                                                          |                                              |                               |               |                |                  |              |           |                | $\perp$          |               |                | oxed                       | '            |                 | 上                                             |
|                      | <u>-</u>                                         | Special Instructions | f Specify Criteria to | add on report by chic                                                                                                                                   | king on the drop-        | down list below                                  |                                                                                                          |                                              |                               |               | SAA            |                  |              |           |                |                  | ab usa d      | only)          |                            |              | —,              | _                                             |
| Drinkir              | ng Water (DW) Samples' (client use)              |                      | elc                   | ectronic COC only)                                                                                                                                      |                          |                                                  | Froz                                                                                                     | Berl                                         |                               |               |                |                  |              | rvations  |                | Yes              | H             |                | j <b>v</b> ±3              |              |                 |                                               |
| Ārē samples taks     | en from a Regulated DW System?                   | O. Dog.              | 1520                  | 4 - 12 12                                                                                                                                               | 10 1                     |                                                  |                                                                                                          | acks                                         | Ø                             |               | ibee 🏃         | <b>F</b> P C⊓    | slody s      | estinic   | ect            | Yes              |               |                | No                         |              | 1               |                                               |
| YES   NO   O . Peg . |                                                  |                      |                       | 1 1000                                                                                                                                                  | <u> </u>                 |                                                  | Cool                                                                                                     | mg initi                                     |                               |               |                |                  |              |           |                | ,                |               |                |                            | 050.5        |                 | _                                             |
| 1                    | human consumption) use?                          |                      |                       |                                                                                                                                                         |                          |                                                  |                                                                                                          | MITM<br>T                                    | COOLE                         | TEMP          | PATURE         | s t              | -            | 170       | - /-           | NAL COO          | LER TEM       | PERATU         | HES C                      | <u></u>      |                 |                                               |
| 111                  | YES M. NO                                        |                      |                       |                                                                                                                                                         |                          |                                                  |                                                                                                          |                                              |                               |               |                |                  |              |           | MC.            | 1.4              |               |                | <u> </u>                   |              |                 |                                               |
| <del></del>          |                                                  |                      |                       |                                                                                                                                                         | T RECEPTION              | (lab use only)                                   |                                                                                                          |                                              | <u></u>                       |               |                | FII              | (AL SI       | IIPME     | NT REC         | EPTIO            | N (lab u      | se only        | <u></u>                    | Пен          | Ξ.              | 1                                             |
| Released by          | Date                                             | Jan Time:            | Received by:          | : -                                                                                                                                                     | Date:                    |                                                  | Time                                                                                                     | ):                                           | Reco                          | eined by      | · 10 .         |                  | 7            | Das       | 9 <u>-</u> 5   | 22               | 3-1           | 202            | 20 l                       | <b>""</b>    | 2:              | 15                                            |
| UKK                  | 2020 0                                           | 1123 14.13           | <u> </u>              | ÷                                                                                                                                                       | TC LABORATOR             | SU AABU VEIT A                                   | MAC CI                                                                                                   | IENT C                                       | APV                           |               | JE J           |                  |              |           |                | <u>/ _</u>       |               | <u> </u>       |                            |              | <u></u><br>.i.x | <u>r                                     </u> |



CH2M HILL CANADA LIMITED

ATTN: Michael Shiry

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 28-JAN-20

Report Date: 03-FEB-20 14:18 (MT)

Version: FINAL REV. 2

Client Phone: 519-579-3500

# **Certificate of Analysis**

Lab Work Order #: L2410311

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900 C of C Numbers: 17-798251

Legal Site Desc:

Comments: ADDITIONAL 03-FEB-20 08:58

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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CE751900

## **ANALYTICAL GUIDELINE REPORT**

L2410311 CONTD....

Page 2 of 6 03-FEB-20 14:18 (MT)

| CE751900                                 |        |           |        |       |           |      | 03-FEB-20 14:18 (MT) |
|------------------------------------------|--------|-----------|--------|-------|-----------|------|----------------------|
| Sample Details Grouping Analyte          | Result | Qualifier | D.L.   | Units | Analyzed  |      | Guideline Limits     |
| L2410311-1 MW112                         |        |           |        |       |           |      |                      |
| Sampled By: V.PETER on 28-JAN-20 @ 09:00 |        |           |        |       |           |      |                      |
| Matrix: WATER                            |        |           |        |       |           | #1   |                      |
| Volatile Organic Compounds               |        |           |        |       |           |      |                      |
| Acetone                                  | <30    |           | 30     | ug/L  | 29-JAN-20 | 2700 |                      |
| Benzene                                  | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| Bromodichloromethane                     | <2.0   |           | 2.0    | ug/L  | 29-JAN-20 | 2    |                      |
| Bromoform                                | <5.0   |           | 5.0    | ug/L  | 29-JAN-20 | 5    |                      |
| Bromomethane                             | <0.50  |           | 0.50   | ug/L  | 29-JAN-20 | 0.89 |                      |
| Carbon tetrachloride                     | <0.20  |           | 0.20   | ug/L  | 29-JAN-20 | 0.2  |                      |
| Chlorobenzene                            | <0.50  |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| Dibromochloromethane                     | <2.0   |           | 2.0    | ug/L  | 29-JAN-20 | 2    |                      |
| Chloroform                               | 6.5    |           | 1.0    | ug/L  | 29-JAN-20 | *2   |                      |
| 1,2-Dibromoethane                        | <0.20  |           | 0.20   | ug/L  | 29-JAN-20 | 0.2  |                      |
| 1,2-Dichlorobenzene                      | <0.50  |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| 1,3-Dichlorobenzene                      | <0.50  |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| 1,4-Dichlorobenzene                      | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| Dichlorodifluoromethane                  | <2.0   |           | 2.0    | ug/L  | 29-JAN-20 | 590  |                      |
| 1,1-Dichloroethane                       | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| 1,2-Dichloroethane                       | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| 1,1-Dichloroethylene                     | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| cis-1,2-Dichloroethylene                 | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 1.6  |                      |
| trans-1,2-Dichloroethylene               | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 1.6  |                      |
| Methylene Chloride                       | <5.0   |           | 5.0    | ug/L  | 29-JAN-20 | 5    |                      |
| 1,2-Dichloropropane                      | <0.50  |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| cis-1,3-Dichloropropene                  | < 0.30 |           | 0.30   | ug/L  | 29-JAN-20 |      |                      |
| trans-1,3-Dichloropropene                | < 0.30 |           | 0.30   | ug/L  | 29-JAN-20 |      |                      |
| 1,3-Dichloropropene (cis & trans)        | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| Ethylbenzene                             | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| n-Hexane                                 | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 5    |                      |
| Methyl Ethyl Ketone                      | <20    |           | 20     | ug/L  | 29-JAN-20 | 400  |                      |
| Methyl Isobutyl Ketone                   | <20    |           | 20     | ug/L  | 29-JAN-20 | 640  |                      |
| MTBE                                     | <2.0   |           | 2.0    | ug/L  | 29-JAN-20 | 15   |                      |
| Styrene                                  | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| 1,1,1,2-Tetrachloroethane                | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 1.1  |                      |
| 1,1,2,2-Tetrachloroethane                | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| Tetrachloroethylene                      | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| Toluene                                  | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.8  |                      |
| 1,1,1-Trichloroethane                    | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| 1,1,2-Trichloroethane                    | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| Trichloroethylene                        | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| Trichlorofluoromethane                   | <5.0   |           | 5.0    | ug/L  | 29-JAN-20 | 150  |                      |
| Vinyl chloride                           | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 0.5  |                      |
| o-Xylene                                 | < 0.30 |           | 0.30   | ug/L  | 29-JAN-20 |      |                      |
| m+p-Xylenes                              | < 0.40 |           | 0.40   | ug/L  | 29-JAN-20 |      |                      |
| Xylenes (Total)                          | < 0.50 |           | 0.50   | ug/L  | 29-JAN-20 | 72   |                      |
| Surrogate: 4-Bromofluorobenzene          | 101.4  |           | 70-130 | %     | 29-JAN-20 |      |                      |
| Surrogate: 1,4-Difluorobenzene           | 99.5   |           | 70-130 | %     | 29-JAN-20 |      |                      |
| Hydrocarbons                             |        |           |        |       |           |      |                      |
| F1 (C6-C10)                              | <25    |           | 25     | ug/L  | 29-JAN-20 | 420  |                      |

<sup>\*\*</sup> 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:



## **ANALYTICAL GUIDELINE REPORT**

L2410311 CONTD....

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| EF751900                               | ANALII   | ICAL      | GUID   | CLINE   | KEFOR                  | \ I  | Page 3<br>03-FEB-20 1 |  |
|----------------------------------------|----------|-----------|--------|---------|------------------------|------|-----------------------|--|
| Sample Details                         | December | 0         | D.1    | LL-3r-  |                        |      |                       |  |
| Grouping Analyte                       | Result   | Qualifier | D.L.   | Units   | Analyzed               |      | Guideline Limits      |  |
| L2410311-1 MW112                       |          |           |        |         |                        |      |                       |  |
| Sampled By: V.PETER on 28-JAN-20 @ 09: | 00       |           |        |         |                        | 44   |                       |  |
| Matrix: WATER                          |          |           |        |         |                        | #1   |                       |  |
| Hydrocarbons                           |          |           |        |         |                        |      |                       |  |
| F1-BTEX                                | <25      |           | 25     | ug/L    | 29-JAN-20              | 420  |                       |  |
| F2 (C10-C16)                           | <100     |           | 100    | ug/L    | 29-JAN-20              | 150  |                       |  |
| F3 (C16-C34)                           | <250     |           | 250    | ug/L    | 29-JAN-20              | 500  |                       |  |
| F4 (C34-C50)                           | <250     |           | 250    | ug/L    | 29-JAN-20              | 500  |                       |  |
| Total Hydrocarbons (C6-C50)            | <370     |           | 370    | ug/L    | 29-JAN-20              |      |                       |  |
| Chrom. to baseline at nC50             | YES      |           |        | No Unit | 29-JAN-20              |      |                       |  |
| Surrogate: 2-Bromobenzotrifluoride     | 86.8     |           | 60-140 | %       | 29-JAN-20              |      |                       |  |
| Surrogate: 3,4-Dichlorotoluene         | 87.7     |           | 60-140 | %       | 29-JAN-20              |      |                       |  |
| Polycyclic Aromatic Hydrocarbons       |          |           |        |         |                        |      |                       |  |
| Acenaphthene                           | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 4.1  |                       |  |
| Acenaphthylene                         | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 1    |                       |  |
| Anthracene                             | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.1  |                       |  |
| Benzo(a)anthracene                     | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.2  |                       |  |
| Benzo(a)pyrene                         | <0.010   |           | 0.010  | ug/L    | 03-FEB-20              | 0.01 |                       |  |
| Benzo(b)fluoranthene                   | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.1  |                       |  |
| Benzo(g,h,i)perylene                   | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.2  |                       |  |
| Benzo(k)fluoranthene                   | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.1  |                       |  |
| Chrysene                               | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.1  |                       |  |
| Dibenzo(ah)anthracene                  | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.2  |                       |  |
| Fluoranthene                           | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.4  |                       |  |
| Fluorene                               | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 120  |                       |  |
| Indeno(1,2,3-cd)pyrene                 | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.2  |                       |  |
| 1+2-Methylnaphthalenes                 | <0.028   |           | 0.028  | ug/L    | 03-FEB-20              | 2    |                       |  |
| 1-Methylnaphthalene                    | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 2    |                       |  |
| 2-Methylnaphthalene                    | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 2    |                       |  |
| Naphthalene                            | <0.050   |           | 0.050  | ug/L    | 03-FEB-20              | 7    |                       |  |
| Phenanthrene                           | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.1  |                       |  |
| Pyrene                                 | <0.020   |           | 0.020  | ug/L    | 03-FEB-20              | 0.2  |                       |  |
| Surrogate: d10-Acenaphthene            | 89.8     |           | 60-140 | %       | 03-FEB-20              |      |                       |  |
| Surrogate: d12-Chrysene                | 103.8    |           | 60-140 | %       | 03-FEB-20              |      |                       |  |
| Surrogate: d10 Phananthrana            | 87.3     |           | 60-140 | %       | 03-FEB-20<br>03-FEB-20 |      |                       |  |
| Surrogate: d10-Phenanthrene            | 103.5    |           | 60-140 | %       | U3-FEB-20              |      |                       |  |
| L2410311-2 TB002                       |          |           |        |         |                        |      |                       |  |
| Sampled By: V.PETER on 28-JAN-20       |          |           |        |         |                        |      |                       |  |
| Matrix: WATER                          |          |           |        |         |                        | #1   |                       |  |
| Volatile Organic Compounds             |          |           |        |         |                        |      |                       |  |
| Acetone                                | <30      |           | 30     | ug/L    | 29-JAN-20              | 2700 |                       |  |
| Benzene                                | <0.50    |           | 0.50   | ug/L    | 29-JAN-20              | 0.5  |                       |  |
| Bromodichloromethane                   | <2.0     |           | 2.0    | ug/L    | 29-JAN-20              | 2    |                       |  |
| Bromoform                              | <5.0     |           | 5.0    | ug/L    | 29-JAN-20              | 5    |                       |  |
| Bromomethane                           | <0.50    |           | 0.50   | ug/L    | 29-JAN-20              | 0.89 |                       |  |
| Carbon tetrachloride                   | <0.20    |           | 0.20   | ug/L    | 29-JAN-20              | 0.2  |                       |  |
| Chlorobenzene                          | <0.50    |           | 0.50   | ug/L    | 29-JAN-20              | 0.5  |                       |  |
| Dibromochloromethane                   | <2.0     |           | 2.0    | ug/L    | 29-JAN-20              | 2    |                       |  |
| Chloroform                             | <1.0     |           | 1.0    | ug/L    | 29-JAN-20              | 2    |                       |  |

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:



## **ANALYTICAL GUIDELINE REPORT**

L2410311 CONTD....

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| 0.20<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50                                                                | Units  ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/                                  | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20 | #1  0.2  0.5  0.5  0.5  590  0.5  0.5  1.6  1.6  5  0.5                                                                                                                                                                                                  | Guideline Limits |      |
|-----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------|
| 0.20<br>0.50<br>0.50<br>0.50<br>2.0<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.30<br>0.30<br>0.50<br>0.50<br>0.50<br>0.50 | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                           | 0.2<br>0.5<br>0.5<br>0.5<br>590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                  | Guideline Limits |      |
| 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50                                                                                     | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                        | 0.2<br>0.5<br>0.5<br>0.5<br>590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                  |                  |      |
| 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50                                                                                     | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                        | 0.2<br>0.5<br>0.5<br>0.5<br>590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                  |                  |      |
| 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50                                                                                     | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                        | 0.2<br>0.5<br>0.5<br>0.5<br>590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                  |                  |      |
| 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50                                                                                     | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                        | 0.5<br>0.5<br>0.5<br>590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                         |                  |      |
| 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50                                                                                     | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                        | 0.5<br>0.5<br>0.5<br>590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                         |                  |      |
| 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50                                                                                     | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                        | 0.5<br>0.5<br>0.5<br>590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                         |                  |      |
| 0.50<br>0.50<br>2.0<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.30<br>0.30<br>0.50<br>0.50<br>0.50<br>20           | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                                     | 0.5<br>0.5<br>590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                                |                  |      |
| 0.50<br>2.0<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0                                                            | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                                                  | 0.5<br>590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                                       |                  |      |
| 2.0<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.30<br>0.30<br>0.50<br>0.50<br>0.50<br>20                           | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                                                               | 590<br>0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                                              |                  |      |
| 0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>5.0<br>0.50<br>0.30<br>0.30<br>0.50<br>0.50<br>0.50<br>20                           | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                                                                            | 0.5<br>0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                                                     |                  |      |
| 0.50<br>0.50<br>0.50<br>5.0<br>0.50<br>0.30<br>0.30<br>0.50<br>0.5                                                          | ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L                                        | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                                                                                         | 0.5<br>0.5<br>1.6<br>1.6<br>5                                                                                                                                                                                                                            |                  |      |
| 0.50<br>0.50<br>5.0<br>0.50<br>0.30<br>0.30<br>0.50<br>0.50<br>0                                                            | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L                           | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                                                                                                      | 1.6<br>1.6<br>5                                                                                                                                                                                                                                          |                  |      |
| 0.50<br>5.0<br>0.50<br>0.30<br>0.30<br>0.50<br>0.50<br>0.50<br>20                                                           | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L                           | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                                                                                                                   | 1.6<br>5                                                                                                                                                                                                                                                 |                  |      |
| 5.0<br>0.50<br>0.30<br>0.30<br>0.50<br>0.50<br>0.50<br>20                                                                   | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L                                   | 29-JAN-20<br>29-JAN-20<br>29-JAN-20<br>29-JAN-20                                                                                                                                                | 5                                                                                                                                                                                                                                                        |                  |      |
| 0.50<br>0.30<br>0.30<br>0.50<br>0.50<br>0.50<br>20                                                                          | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L                                   | 29-JAN-20<br>29-JAN-20<br>29-JAN-20                                                                                                                                                             | 5                                                                                                                                                                                                                                                        |                  |      |
| 0.30<br>0.30<br>0.50<br>0.50<br>0.50<br>20                                                                                  | ug/L<br>ug/L<br>ug/L<br>ug/L<br>ug/L                                           | 29-JAN-20<br>29-JAN-20                                                                                                                                                                          | 0.5                                                                                                                                                                                                                                                      |                  |      |
| 0.30<br>0.50<br>0.50<br>0.50<br>20                                                                                          | ug/L<br>ug/L<br>ug/L                                                           | 29-JAN-20                                                                                                                                                                                       |                                                                                                                                                                                                                                                          |                  |      |
| 0.50<br>0.50<br>0.50<br>20<br>20                                                                                            | ug/L<br>ug/L                                                                   |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |                  |      |
| 0.50<br>0.50<br>20<br>20                                                                                                    | ug/L                                                                           | 29-JAN-20                                                                                                                                                                                       |                                                                                                                                                                                                                                                          |                  |      |
| 0.50<br>20<br>20                                                                                                            | _                                                                              |                                                                                                                                                                                                 | 0.5                                                                                                                                                                                                                                                      |                  |      |
| 20<br>20                                                                                                                    | /1                                                                             | 29-JAN-20                                                                                                                                                                                       | 0.5                                                                                                                                                                                                                                                      |                  |      |
| 20                                                                                                                          | ug/L                                                                           | 29-JAN-20                                                                                                                                                                                       | 5                                                                                                                                                                                                                                                        |                  |      |
|                                                                                                                             | ug/L                                                                           | 29-JAN-20                                                                                                                                                                                       | 400                                                                                                                                                                                                                                                      |                  |      |
| 2.0                                                                                                                         | ug/L                                                                           | 29-JAN-20                                                                                                                                                                                       | 640                                                                                                                                                                                                                                                      |                  |      |
|                                                                                                                             | ug/L                                                                           | 29-JAN-20                                                                                                                                                                                       | 15                                                                                                                                                                                                                                                       |                  |      |
| 0.50                                                                                                                        | ug/L                                                                           | 29-JAN-20                                                                                                                                                                                       | 0.5                                                                                                                                                                                                                                                      |                  |      |
| 0.50                                                                                                                        | ug/L                                                                           | 29-JAN-20                                                                                                                                                                                       | 1.1                                                                                                                                                                                                                                                      |                  |      |
| 0.50                                                                                                                        | ug/L                                                                           | 29-JAN-20                                                                                                                                                                                       | 0.5                                                                                                                                                                                                                                                      |                  |      |
| 0.50                                                                                                                        | ug/L                                                                           | 29-JAN-20                                                                                                                                                                                       | 0.5                                                                                                                                                                                                                                                      |                  |      |
|                                                                                                                             | _                                                                              |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |                  |      |
|                                                                                                                             | _                                                                              |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |                  |      |
|                                                                                                                             | _                                                                              |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |                  |      |
|                                                                                                                             |                                                                                |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |                  |      |
|                                                                                                                             | _                                                                              |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |                  |      |
|                                                                                                                             |                                                                                |                                                                                                                                                                                                 | 0.5                                                                                                                                                                                                                                                      |                  |      |
|                                                                                                                             |                                                                                |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |                  |      |
|                                                                                                                             | _                                                                              |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |                  |      |
|                                                                                                                             |                                                                                |                                                                                                                                                                                                 | 72                                                                                                                                                                                                                                                       |                  |      |
|                                                                                                                             |                                                                                |                                                                                                                                                                                                 |                                                                                                                                                                                                                                                          |                  |      |
|                                                                                                                             | 0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.50<br>0.30<br>0.40<br>0.50<br>70-130 | 0.50 ug/L 0.50 ug/L 0.50 ug/L 0.50 ug/L 5.0 ug/L 0.50 ug/L 0.30 ug/L 0.40 ug/L 0.50 ug/L 70-130 %                                                                                               | 0.50 ug/L 29-JAN-20<br>0.50 ug/L 29-JAN-20<br>0.50 ug/L 29-JAN-20<br>0.50 ug/L 29-JAN-20<br>5.0 ug/L 29-JAN-20<br>0.50 ug/L 29-JAN-20<br>0.30 ug/L 29-JAN-20<br>0.40 ug/L 29-JAN-20<br>0.50 ug/L 29-JAN-20<br>0.50 ug/L 29-JAN-20<br>0.50 ug/L 29-JAN-20 | 0.50             | 0.50 |

<sup>\*\*</sup> Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

<sup>\*</sup> Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

#### **Reference Information**

Methods Listed (if applicable):

| ALS Test Code     | Matrix | Test Description                        | Method Reference***                 |
|-------------------|--------|-----------------------------------------|-------------------------------------|
| 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), 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), 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 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).

VOC-1,3-DCP-CALC-WT Water Regulation 153 VOCs SW8260B/SW8270C

VOC-511-HS-WT Water VOC by GCMS HS O.Reg SW846 8260

153/04 (July 2011)

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), 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- Water Sum of Xylene Isomer CALCULATION

WT Concentrations

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:

17-798251

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:

#### **Reference Information**

| Laboratory Definition Code | Laboratory Location                              | Laboratory Definition Code | Laboratory Location |
|----------------------------|--------------------------------------------------|----------------------------|---------------------|
| WT                         | ALS ENVIRONMENTAL - WATERLOO,<br>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.



Qualifier

Workorder: L2410311 Report Date: 03-FEB-20 Page 1 of 8

RPD

Limit

Analyzed

Units

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Matrix

Reference

Result

Contact: Michael Shiry

Test

| Test                                   |                | Wallix       | Reference              | Result | Qualifier | Ullits | KPD  | LIIIII | Anaryzeu  |
|----------------------------------------|----------------|--------------|------------------------|--------|-----------|--------|------|--------|-----------|
| F1-HS-511-WT                           |                | Water        |                        |        |           |        |      |        |           |
| Batch R4<br>WG3265402-4<br>F1 (C6-C10) | 1982948<br>DUP |              | <b>WG3265402-3</b> <25 | <25    | RPD-NA    | ug/L   | N/A  | 30     | 29-JAN-20 |
| <b>WG3265402-1</b> F1 (C6-C10)         | LCS            |              |                        | 85.9   | KI D IW   | %      | 14// | 80-120 | 29-JAN-20 |
| <b>WG3265402-2</b> F1 (C6-C10)         | МВ             |              |                        | <25    |           | ug/L   |      | 25     | 29-JAN-20 |
| Surrogate: 3,4-l                       | Dichloroto     | oluene       |                        | 83.0   |           | %      |      | 60-140 | 29-JAN-20 |
| <b>WG3265402-5</b><br>F1 (C6-C10)      | MS             |              | WG3265402-3            | 74.8   |           | %      |      | 60-140 | 29-JAN-20 |
| F2-F4-511-WT                           |                | Water        |                        |        |           |        |      |        |           |
| Batch R4                               | 1983409        |              |                        |        |           |        |      |        |           |
| <b>WG3265118-2</b> F2 (C10-C16)        | LCS            |              |                        | 101.0  |           | %      |      | 70-130 | 29-JAN-20 |
| F3 (C16-C34)                           |                |              |                        | 102.7  |           | %      |      | 70-130 | 29-JAN-20 |
| F4 (C34-C50)                           |                |              |                        | 102.8  |           | %      |      | 70-130 | 29-JAN-20 |
| <b>WG3265118-1</b> F2 (C10-C16)        | MB             |              |                        | <100   |           | ug/L   |      | 100    | 29-JAN-20 |
| F3 (C16-C34)                           |                |              |                        | <250   |           | ug/L   |      | 250    | 29-JAN-20 |
| F4 (C34-C50)                           |                |              |                        | <250   |           | ug/L   |      | 250    | 29-JAN-20 |
| Surrogate: 2-Br                        | omobenz        | otrifluoride |                        | 90.6   |           | %      |      | 60-140 | 29-JAN-20 |
| PAH-511-WT                             |                | Water        |                        |        |           |        |      |        |           |
| Batch R4                               | 1986878        |              |                        |        |           |        |      |        |           |
| WG3265118-2<br>1-Methylnaphth          | LCS<br>alene   |              |                        | 82.3   |           | %      |      | 50-140 | 03-FEB-20 |
| 2-Methylnaphth                         | alene          |              |                        | 80.6   |           | %      |      | 50-140 | 03-FEB-20 |
| Acenaphthene                           |                |              |                        | 94.8   |           | %      |      | 50-140 | 03-FEB-20 |
| Acenaphthylene                         | Э              |              |                        | 98.6   |           | %      |      | 50-140 | 03-FEB-20 |
| Anthracene                             |                |              |                        | 121.1  |           | %      |      | 50-140 | 03-FEB-20 |
| Benzo(a)anthra                         | icene          |              |                        | 140.9  | LCS-ND    | %      |      | 50-140 | 03-FEB-20 |
| Benzo(a)pyrene                         | e              |              |                        | 104.0  |           | %      |      | 50-140 | 03-FEB-20 |
| Benzo(b)fluorar                        | nthene         |              |                        | 93.6   |           | %      |      | 50-140 | 03-FEB-20 |
| Benzo(g,h,i)per                        | ylene          |              |                        | 86.8   |           | %      |      | 50-140 | 03-FEB-20 |
| Benzo(k)fluorar                        | nthene         |              |                        | 95.1   |           | %      |      | 50-140 | 03-FEB-20 |
| Chrysene                               |                |              |                        | 108.8  |           | %      |      | 50-140 | 03-FEB-20 |
| Dibenzo(ah)ant                         | hracene        |              |                        | 99.8   |           | %      |      | 50-140 | 03-FEB-20 |
| Fluoranthene                           |                |              |                        | 104.3  |           | %      |      | 50-140 | 03-FEB-20 |
|                                        |                |              |                        |        |           |        |      |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                  | Matrix  | Reference   | Result | Qualifier | Units | RPD  | Limit  | Analyzed   |
|---------------------------------------|---------|-------------|--------|-----------|-------|------|--------|------------|
| PAH-511-WT                            | Water   |             |        |           |       |      |        |            |
| Batch R4986878                        | 3       |             |        |           |       |      |        |            |
| WG3265118-2 LCS<br>Fluorene           |         |             | 103.0  |           | %     |      | 50.440 | 00 FFD 00  |
| Indeno(1,2,3-cd)pyrene                | 2       |             | 113.9  |           | %     |      | 50-140 | 03-FEB-20  |
| Naphthalene                           | 7       |             | 83.4   |           | %     |      | 50-140 | 03-FEB-20  |
| Phenanthrene                          |         |             | 109.2  |           | %     |      | 50-140 | 03-FEB-20  |
| Pyrene                                |         |             |        |           | %     |      | 50-140 | 03-FEB-20  |
| ,                                     |         |             | 108.6  |           | 70    |      | 50-140 | 03-FEB-20  |
| WG3265118-1 MB<br>1-Methylnaphthalene |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| 2-Methylnaphthalene                   |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Acenaphthene                          |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Acenaphthylene                        |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Anthracene                            |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Benzo(a)anthracene                    |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Benzo(a)pyrene                        |         |             | <0.010 |           | ug/L  |      | 0.01   | 03-FEB-20  |
| Benzo(b)fluoranthene                  |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Benzo(g,h,i)perylene                  |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Benzo(k)fluoranthene                  |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Chrysene                              |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Dibenzo(ah)anthracene                 | e       |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Fluoranthene                          |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Fluorene                              |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Indeno(1,2,3-cd)pyrene                | 9       |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Naphthalene                           |         |             | <0.050 |           | ug/L  |      | 0.05   | 03-FEB-20  |
| Phenanthrene                          |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Pyrene                                |         |             | <0.020 |           | ug/L  |      | 0.02   | 03-FEB-20  |
| Surrogate: d8-Naphtha                 | lene    |             | 95.6   |           | %     |      | 60-140 | 03-FEB-20  |
| Surrogate: d10-Phenar                 | nthrene |             | 113.4  |           | %     |      | 60-140 | 03-FEB-20  |
| Surrogate: d12-Chryse                 | ne      |             | 118.3  |           | %     |      | 60-140 | 03-FEB-20  |
| Surrogate: d10-Acenap                 | ohthene |             | 98.6   |           | %     |      | 60-140 | 03-FEB-20  |
| VOC-511-HS-WT                         | Water   |             |        |           |       |      |        |            |
| Batch R4982948                        | 3       |             |        |           |       |      |        |            |
| WG3265402-4 DUP                       | ano.    | WG3265402-3 |        | DDD MA    | ua/l  | N1/A | 20     | 00 1411 00 |
| 1,1,1,2-Tetrachloroetha               |         | <0.50       | <0.50  | RPD-NA    | ug/L  | N/A  | 30     | 29-JAN-20  |
| 1,1,2,2-Tetrachloroetha               | ane     | <0.50       | <0.50  | RPD-NA    | ug/L  | N/A  | 30     | 29-JAN-20  |
| 1,1,1-Trichloroethane                 |         | <0.50       | <0.50  | RPD-NA    | ug/L  | N/A  | 30     | 29-JAN-20  |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                     | Matrix | Reference      | Result | Qualifier | Units | RPD  | Limit | Analyzed   |
|------------------------------------------|--------|----------------|--------|-----------|-------|------|-------|------------|
| VOC-511-HS-WT                            | Water  |                |        |           |       |      |       |            |
| Batch R4982948                           |        |                |        |           |       |      |       |            |
| WG3265402-4 DUP<br>1,1,2-Trichloroethane |        | WG3265402      |        | DDD MA    | ug/l  | NI/A | 20    | 00 1441 00 |
| 1,1-Dichloroethane                       |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| ·                                        |        | <0.50<br><0.50 | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| 1,1-Dichloroethylene                     |        |                | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| 1,2-Dibromoethane                        |        | <0.20          | <0.20  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| 1,2-Dichlorobenzene 1,2-Dichloroethane   |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| •                                        |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| 1,2-Dichloropropane                      |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| 1,3-Dichlorobenzene                      |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| 1,4-Dichlorobenzene                      |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Acetone                                  |        | <30            | <30    | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Benzene                                  |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Bromodichloromethane                     |        | <2.0           | <2.0   | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Bromoform                                |        | <5.0           | <5.0   | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Bromomethane                             |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Carbon tetrachloride                     |        | <0.20          | <0.20  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Chlorobenzene                            |        | <0.50          | < 0.50 | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Chloroform                               |        | 6.5            | 6.7    |           | ug/L  | 2.9  | 30    | 29-JAN-20  |
| cis-1,2-Dichloroethylene                 | 9      | <0.50          | < 0.50 | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| cis-1,3-Dichloropropene                  | )      | <0.30          | < 0.30 | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Dibromochloromethane                     |        | <2.0           | <2.0   | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Dichlorodifluoromethan                   | е      | <2.0           | <2.0   | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Ethylbenzene                             |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| n-Hexane                                 |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| m+p-Xylenes                              |        | <0.40          | < 0.40 | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Methyl Ethyl Ketone                      |        | <20            | <20    | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Methyl Isobutyl Ketone                   |        | <20            | <20    | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Methylene Chloride                       |        | <5.0           | <5.0   | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| MTBE                                     |        | <2.0           | <2.0   | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| o-Xylene                                 |        | <0.30          | <0.30  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Styrene                                  |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Tetrachloroethylene                      |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| Toluene                                  |        | <0.50          | <0.50  | RPD-NA    | ug/L  | N/A  | 30    | 29-JAN-20  |
| trans-1,2-Dichloroethyle                 |        | <0.50          |        |           |       |      |       |            |



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72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                         | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|----------------------------------------------|--------|-------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                                | Water  |             |        |           |       |     |        |           |
| Batch R4982948                               |        |             |        |           |       |     |        |           |
| WG3265402-4 DUP                              | _      | WG3265402-3 |        |           |       |     |        |           |
| trans-1,2-Dichloroethylen                    |        | <0.50       | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 29-JAN-20 |
| trans-1,3-Dichloropropen                     | е      | <0.30       | <0.30  | RPD-NA    | ug/L  | N/A | 30     | 29-JAN-20 |
| Trichloroethylene                            |        | <0.50       | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 29-JAN-20 |
| Trichlorofluoromethane                       |        | <5.0        | <5.0   | RPD-NA    | ug/L  | N/A | 30     | 29-JAN-20 |
| Vinyl chloride                               |        | <0.50       | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 29-JAN-20 |
| WG3265402-1 LCS<br>1,1,1,2-Tetrachloroethane | е      |             | 98.8   |           | %     |     | 70-130 | 29-JAN-20 |
| 1,1,2,2-Tetrachloroethane                    | е      |             | 106.0  |           | %     |     | 70-130 | 29-JAN-20 |
| 1,1,1-Trichloroethane                        |        |             | 101.2  |           | %     |     | 70-130 | 29-JAN-20 |
| 1,1,2-Trichloroethane                        |        |             | 103.2  |           | %     |     | 70-130 | 29-JAN-20 |
| 1,1-Dichloroethane                           |        |             | 105.1  |           | %     |     | 70-130 | 29-JAN-20 |
| 1,1-Dichloroethylene                         |        |             | 103.8  |           | %     |     | 70-130 | 29-JAN-20 |
| 1,2-Dibromoethane                            |        |             | 103.3  |           | %     |     | 70-130 | 29-JAN-20 |
| 1,2-Dichlorobenzene                          |        |             | 103.3  |           | %     |     | 70-130 | 29-JAN-20 |
| 1,2-Dichloroethane                           |        |             | 102.7  |           | %     |     | 70-130 | 29-JAN-20 |
| 1,2-Dichloropropane                          |        |             | 115.1  |           | %     |     | 70-130 | 29-JAN-20 |
| 1,3-Dichlorobenzene                          |        |             | 99.2   |           | %     |     | 70-130 | 29-JAN-20 |
| 1,4-Dichlorobenzene                          |        |             | 99.4   |           | %     |     | 70-130 | 29-JAN-20 |
| Acetone                                      |        |             | 106.7  |           | %     |     | 60-140 | 29-JAN-20 |
| Benzene                                      |        |             | 108.0  |           | %     |     | 70-130 | 29-JAN-20 |
| Bromodichloromethane                         |        |             | 103.8  |           | %     |     | 70-130 | 29-JAN-20 |
| Bromoform                                    |        |             | 104.1  |           | %     |     | 70-130 | 29-JAN-20 |
| Bromomethane                                 |        |             | 97.5   |           | %     |     | 60-140 | 29-JAN-20 |
| Carbon tetrachloride                         |        |             | 101.3  |           | %     |     | 70-130 | 29-JAN-20 |
| Chlorobenzene                                |        |             | 102.9  |           | %     |     | 70-130 | 29-JAN-20 |
| Chloroform                                   |        |             | 105.2  |           | %     |     | 70-130 | 29-JAN-20 |
| cis-1,2-Dichloroethylene                     |        |             | 103.3  |           | %     |     | 70-130 | 29-JAN-20 |
| cis-1,3-Dichloropropene                      |        |             | 106.4  |           | %     |     | 70-130 | 29-JAN-20 |
| Dibromochloromethane                         |        |             | 95.8   |           | %     |     | 70-130 | 29-JAN-20 |
| Dichlorodifluoromethane                      |        |             | 98.6   |           | %     |     | 50-140 | 29-JAN-20 |
| Ethylbenzene                                 |        |             | 101.1  |           | %     |     | 70-130 | 29-JAN-20 |
| n-Hexane                                     |        |             | 95.2   |           | %     |     | 70-130 | 29-JAN-20 |
| m+p-Xylenes                                  |        |             | 99.7   |           | %     |     | 70-130 | 29-JAN-20 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                   | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|----------------------------------------|--------|-----------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                          | Water  |           |        |           |       |     |        |           |
| Batch R4982948                         |        |           |        |           |       |     |        |           |
| WG3265402-1 LCS<br>Methyl Ethyl Ketone |        |           | 101.8  |           | %     |     | 60-140 | 29-JAN-20 |
| Methyl Isobutyl Ketone                 |        |           | 92.3   |           | %     |     | 60-140 | 29-JAN-20 |
| Methylene Chloride                     |        |           | 106.7  |           | %     |     | 70-130 | 29-JAN-20 |
| MTBE                                   |        |           | 105.8  |           | %     |     | 70-130 | 29-JAN-20 |
| o-Xylene                               |        |           | 100.8  |           | %     |     | 70-130 | 29-JAN-20 |
| Styrene                                |        |           | 102.8  |           | %     |     | 70-130 | 29-JAN-20 |
| Tetrachloroethylene                    |        |           | 99.8   |           | %     |     | 70-130 | 29-JAN-20 |
| Toluene                                |        |           | 101.9  |           | %     |     | 70-130 | 29-JAN-20 |
| trans-1,2-Dichloroethylen              | ne     |           | 98.6   |           | %     |     | 70-130 | 29-JAN-20 |
| trans-1,3-Dichloropropen               |        |           | 105.6  |           | %     |     | 70-130 | 29-JAN-20 |
| Trichloroethylene                      |        |           | 102.4  |           | %     |     | 70-130 | 29-JAN-20 |
| Trichlorofluoromethane                 |        |           | 98.0   |           | %     |     | 60-140 | 29-JAN-20 |
| Vinyl chloride                         |        |           | 109.8  |           | %     |     | 60-140 | 29-JAN-20 |
| WG3265402-2 MB                         |        |           |        |           |       |     |        |           |
| 1,1,1,2-Tetrachloroethan               | е      |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,1,2,2-Tetrachloroethan               | е      |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,1,1-Trichloroethane                  |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,1,2-Trichloroethane                  |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,1-Dichloroethane                     |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,1-Dichloroethylene                   |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,2-Dibromoethane                      |        |           | <0.20  |           | ug/L  |     | 0.2    | 29-JAN-20 |
| 1,2-Dichlorobenzene                    |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,2-Dichloroethane                     |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,2-Dichloropropane                    |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,3-Dichlorobenzene                    |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| 1,4-Dichlorobenzene                    |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| Acetone                                |        |           | <30    |           | ug/L  |     | 30     | 29-JAN-20 |
| Benzene                                |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| Bromodichloromethane                   |        |           | <2.0   |           | ug/L  |     | 2      | 29-JAN-20 |
| Bromoform                              |        |           | <5.0   |           | ug/L  |     | 5      | 29-JAN-20 |
| Bromomethane                           |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| Carbon tetrachloride                   |        |           | <0.20  |           | ug/L  |     | 0.2    | 29-JAN-20 |
| Chlorobenzene                          |        |           | <0.50  |           | ug/L  |     | 0.5    | 29-JAN-20 |
| Chloroform                             |        |           | <1.0   |           | ug/L  |     | 1      | 29-JAN-20 |
|                                        |        |           |        |           |       |     |        |           |



Workorder: L2410311 Report Date: 03-FEB-20 Page 6 of 8

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                       | Matrix      | Reference     | Result | Qualifier | Units        | RPD | Limit  | Analyzed               |
|--------------------------------------------|-------------|---------------|--------|-----------|--------------|-----|--------|------------------------|
| VOC-511-HS-WT                              | Water       |               |        |           |              |     |        |                        |
| Batch R4982948                             |             |               |        |           |              |     |        |                        |
| WG3265402-2 MB cis-1,2-Dichloroethylene    |             |               | <0.50  |           | ua/l         |     | 0.5    | 00 1441 00             |
| cis-1,3-Dichloropropene                    |             |               | <0.30  |           | ug/L<br>ug/L |     | 0.3    | 29-JAN-20              |
| Dibromochloromethane                       |             |               | <2.0   |           | ug/L         |     | 2      | 29-JAN-20<br>29-JAN-20 |
| Dichlorodifluoromethane                    |             |               | <2.0   |           | ug/L         |     | 2      | 29-JAN-20<br>29-JAN-20 |
| Ethylbenzene                               | <b>5</b>    |               | <0.50  |           | ug/L         |     | 0.5    | 29-JAN-20<br>29-JAN-20 |
| n-Hexane                                   |             |               | <0.50  |           | ug/L         |     | 0.5    |                        |
| m+p-Xylenes                                |             |               | <0.40  |           | ug/L         |     | 0.4    | 29-JAN-20              |
| Methyl Ethyl Ketone                        |             |               | <20    |           |              |     | 20     | 29-JAN-20              |
|                                            |             |               | <20    |           | ug/L         |     | 20     | 29-JAN-20              |
| Methyl Isobutyl Ketone  Methylene Chloride |             |               | <5.0   |           | ug/L<br>ug/L |     | 5      | 29-JAN-20              |
| MTBE                                       |             |               | <2.0   |           | ug/L         |     | 2      | 29-JAN-20              |
| o-Xylene                                   |             |               | <0.30  |           | ug/L         |     | 0.3    | 29-JAN-20              |
| Styrene                                    |             |               | <0.50  |           | ug/L         |     | 0.5    | 29-JAN-20<br>29-JAN-20 |
| Tetrachloroethylene                        |             |               | <0.50  |           | ug/L         |     | 0.5    |                        |
| Toluene                                    |             |               | <0.50  |           | ug/L         |     | 0.5    | 29-JAN-20              |
| trans-1,2-Dichloroethyle                   | ina         |               | <0.50  |           | ug/L         |     | 0.5    | 29-JAN-20              |
| trans-1,3-Dichloroprope                    |             |               | <0.30  |           | ug/L         |     | 0.3    | 29-JAN-20<br>29-JAN-20 |
| Trichloroethylene                          | 110         |               | <0.50  |           | ug/L         |     | 0.5    | 29-JAN-20<br>29-JAN-20 |
| Trichlorofluoromethane                     |             |               | <5.0   |           | ug/L         |     | 5      | 29-JAN-20              |
| Vinyl chloride                             |             |               | <0.50  |           | ug/L         |     | 0.5    | 29-JAN-20              |
| Surrogate: 1,4-Difluorob                   | nenzene     |               | 100.6  |           | %            |     | 70-130 | 29-JAN-20<br>29-JAN-20 |
| Surrogate: 4-Bromofluo                     |             |               | 100.7  |           | %            |     | 70-130 | 29-JAN-20              |
| WG3265402-5 MS                             | TODOTIZOTIO | WG3265402-3   |        |           | 70           |     | 70 100 | 29-JAIN-20             |
| 1,1,1,2-Tetrachloroetha                    | ne          | VV G3203402-3 | 99.6   |           | %            |     | 50-140 | 29-JAN-20              |
| 1,1,2,2-Tetrachloroetha                    | ne          |               | 104.3  |           | %            |     | 50-140 | 29-JAN-20              |
| 1,1,1-Trichloroethane                      |             |               | 101.2  |           | %            |     | 50-140 | 29-JAN-20              |
| 1,1,2-Trichloroethane                      |             |               | 103.0  |           | %            |     | 50-140 | 29-JAN-20              |
| 1,1-Dichloroethane                         |             |               | 103.7  |           | %            |     | 50-140 | 29-JAN-20              |
| 1,1-Dichloroethylene                       |             |               | 100.3  |           | %            |     | 50-140 | 29-JAN-20              |
| 1,2-Dibromoethane                          |             |               | 102.0  |           | %            |     | 50-140 | 29-JAN-20              |
| 1,2-Dichlorobenzene                        |             |               | 102.8  |           | %            |     | 50-140 | 29-JAN-20              |
| 1,2-Dichloroethane                         |             |               | 102.0  |           | %            |     | 50-140 | 29-JAN-20              |
| 1,2-Dichloropropane                        |             |               | 115.2  |           | %            |     | 50-140 | 29-JAN-20              |
| 1,3-Dichlorobenzene                        |             |               | 99.1   |           | %            |     | 50-140 | 29-JAN-20              |
|                                            |             |               |        |           |              |     |        |                        |



Workorder: L2410311 Report Date: 03-FEB-20 Page 7 of 8

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                     | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT            | Water  |            |        |           |       |     |        |           |
| Batch R4982948           |        |            |        |           |       |     |        |           |
| WG3265402-5 MS           |        | WG3265402- |        |           | 0/    |     |        |           |
| 1,4-Dichlorobenzene      |        |            | 98.8   |           | %     |     | 50-140 | 29-JAN-20 |
| Acetone                  |        |            | 110.3  |           | %     |     | 50-140 | 29-JAN-20 |
| Benzene                  |        |            | 107.3  |           | %     |     | 50-140 | 29-JAN-20 |
| Bromodichloromethane     |        |            | 103.9  |           | %     |     | 50-140 | 29-JAN-20 |
| Bromoform                |        |            | 101.5  |           | %     |     | 50-140 | 29-JAN-20 |
| Bromomethane             |        |            | 88.7   |           | %     |     | 50-140 | 29-JAN-20 |
| Carbon tetrachloride     |        |            | 101.4  |           | %     |     | 50-140 | 29-JAN-20 |
| Chlorobenzene            |        |            | 102.6  |           | %     |     | 50-140 | 29-JAN-20 |
| Chloroform               |        |            | 106.0  |           | %     |     | 50-140 | 29-JAN-20 |
| cis-1,2-Dichloroethylene | )      |            | 102.4  |           | %     |     | 50-140 | 29-JAN-20 |
| cis-1,3-Dichloropropene  | )      |            | 108.7  |           | %     |     | 50-140 | 29-JAN-20 |
| Dibromochloromethane     |        |            | 94.4   |           | %     |     | 50-140 | 29-JAN-20 |
| Dichlorodifluoromethane  | Э      |            | 85.7   |           | %     |     | 50-140 | 29-JAN-20 |
| Ethylbenzene             |        |            | 101.2  |           | %     |     | 50-140 | 29-JAN-20 |
| n-Hexane                 |        |            | 91.1   |           | %     |     | 50-140 | 29-JAN-20 |
| m+p-Xylenes              |        |            | 99.3   |           | %     |     | 50-140 | 29-JAN-20 |
| Methyl Ethyl Ketone      |        |            | 103.2  |           | %     |     | 50-140 | 29-JAN-20 |
| Methyl Isobutyl Ketone   |        |            | 92.1   |           | %     |     | 50-140 | 29-JAN-20 |
| Methylene Chloride       |        |            | 104.9  |           | %     |     | 50-140 | 29-JAN-20 |
| MTBE                     |        |            | 105.0  |           | %     |     | 50-140 | 29-JAN-20 |
| o-Xylene                 |        |            | 100.9  |           | %     |     | 50-140 | 29-JAN-20 |
| Styrene                  |        |            | 102.1  |           | %     |     | 50-140 | 29-JAN-20 |
| Tetrachloroethylene      |        |            | 99.6   |           | %     |     | 50-140 | 29-JAN-20 |
| Toluene                  |        |            | 102.2  |           | %     |     | 50-140 | 29-JAN-20 |
| trans-1,2-Dichloroethyle | ene    |            | 95.8   |           | %     |     | 50-140 | 29-JAN-20 |
| trans-1,3-Dichloroprope  | ne     |            | 102.7  |           | %     |     | 50-140 | 29-JAN-20 |
| Trichloroethylene        |        |            | 102.2  |           | %     |     | 50-140 | 29-JAN-20 |
| Trichlorofluoromethane   |        |            | 93.7   |           | %     |     | 50-140 | 29-JAN-20 |
| Vinyl chloride           |        |            | 100.1  |           | %     |     | 50-140 | 29-JAN-20 |
|                          |        |            |        |           |       |     |        |           |

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Workorder: L2410311 Report Date: 03-FEB-20

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: Michael Shiry

#### 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                                                                                                                   |
|-----------|-------------------------------------------------------------------------------------------------------------------------------|
| LCS-ND    | Lab Control Sample recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected. |
| 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.

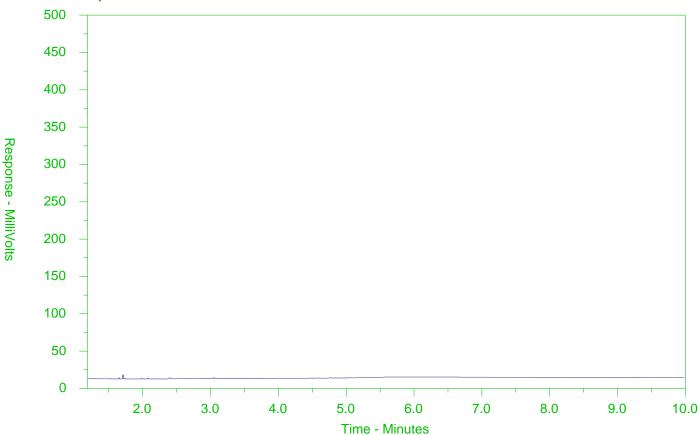
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide 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: L2410311-1 Client Sample ID: MW112



| <b>←</b> -F2- | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor 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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.

# ALS Environmental

ywww.alsglobal.com

#### Chain of Custody (COC) / Analytical Request Form

Canada Toli Free: 1 800 668 9878

L2410311-COFC

C Number 17 - 798251

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Report To Contact and company name below will appear on the final report Report Format / Distrita..... \_\_ntact your AM to confirm all E&P TATe (surcharges may apply) Company Select Report Format: XX POF XX EXCEL XX Regular [R] Standard TAT if received by 3 pm - business days - no sucharges apply Michael Quality Control (QC) Report with Report Contact 4 day [P4-20%] Business day [E - 100%] Compare Results to Order a on Report - provide details below if box checked Phone: 3 day (P3-25%) Same Day, Weekend or Statutory holiday (E2 -200%) M EMAGE | MAJE! | FAX 2 day [P2-50%] (Laboratory opening fees may apply) ] Victoria St. S Sute 300 Email 1 or Fax Michael, Shiry Wycoles for Sirest: Date and Time Required for all ESP TATE dd-mmm-yy hh mm City/Province For taxes that can not be performed according to the service level selected, you will be contacted Postal Code N23 449 Analysis Request Invoice To Same as Report To ves | NO Indicate Filtered (F), Preserved (P) or Filtimod and Preserved (F/P) below ON HOLD Copy of Invoice with Report YES | | Select Invoice Distribution. EMAIL MAL. FAX 띪 ≥طميهل Emai: 1 or Eax Company CONTAIN Contact Email 2 Project information Oil and Gas Required Fields (client use) 077980 ALS Account # / Quote # AFE(Cast Center: PO# Job #: Major/Minor Coda Routing Code: PO/AFE Requisitioner 6 Ш LSD: Location SAMPL NUMBER ALS Lab Work Order # (lab use only): ALS Contact: ALS Semple # Sample Identification and/or Coordinates Date Time Sample Type Rab use only) (This description will appear on the report) (dd mmm-yy) (hh:mmh) MWIIZ 9:00 water 28-01-2020 QC. SAMPLE CONDITION AS RECEIVED (lab use only) Special instructions I Specify Criteria to add on report by clicking on the drop-down fist below Drinking Water (OW) Samples1 (client use) SIF Observations No Are samples taken from a Regulated DW System? los Packs (SX) los Cubes (Custody seel intact) Cooling Initialist (Custody seel intact) Νo FINAL COOLER TEMPERATURES \*C INTIAL COOLER TEMPERATURES C SHIPMENT RELEASE (cilent use) INITIAL SHIPMENT RECEPTION (lab use only) FINAL SHIPMENT RECEPTION (Lab use only) Received by Time: Received by: WHITE - LABORATORY COPY YELLOW - CLIENT COPY



CH2M HILL CANADA LIMITED ATTN: MICHAEL SHIRY CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Date Received: 09-APR-20

Report Date: 20-APR-20 12:40 (MT)

Version: FINAL

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2436005

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900 C of C Numbers: 17-795995

Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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L2436005 CONTD.... PAGE 2 of 12 Version: FINAL

| Sample Details/Parameters                                                              | Result  | Qualifier* | D.L.   | Units    | Extracted | Analyzed  | Batch    |
|----------------------------------------------------------------------------------------|---------|------------|--------|----------|-----------|-----------|----------|
| L2436005-1 MW113-2.5-4.5<br>Sampled By: J. GOWING on 09-APR-20 @ 10:50<br>Matrix: SOIL |         |            |        |          |           |           |          |
| Physical Tests                                                                         |         |            |        |          |           |           |          |
| Conductivity                                                                           | 1.66    |            | 0.0040 | mS/cm    |           | 17-APR-20 | R5057777 |
| % Moisture                                                                             | 8.79    |            | 0.25   | %        | 13-APR-20 | 14-APR-20 | R5056197 |
| рН                                                                                     | 7.93    |            | 0.10   | pH units |           | 14-APR-20 | R5056536 |
| Cyanides                                                                               |         |            |        |          |           |           |          |
| Cyanide, Weak Acid Diss                                                                | <0.050  |            | 0.050  | ug/g     | 13-APR-20 | 14-APR-20 | R5056331 |
| Saturated Paste Extractables                                                           |         |            |        |          |           |           |          |
| SAR                                                                                    | 45.6    |            | 0.10   | SAR      |           | 15-APR-20 | R5057105 |
| Calcium (Ca)                                                                           | 2.84    |            | 0.50   | mg/L     |           | 15-APR-20 | R5057105 |
| Magnesium (Mg)                                                                         | 0.50    |            | 0.50   | mg/L     |           | 15-APR-20 | R5057105 |
| Sodium (Na)                                                                            | 317     |            | 0.50   | mg/L     |           | 15-APR-20 | R5057105 |
| Metals                                                                                 |         |            |        |          |           |           |          |
| Antimony (Sb)                                                                          | <1.0    |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Arsenic (As)                                                                           | 3.4     |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Barium (Ba)                                                                            | 34.7    |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Beryllium (Be)                                                                         | <0.50   |            | 0.50   | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Boron (B)                                                                              | <5.0    |            | 5.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Boron (B), Hot Water Ext.                                                              | 0.19    |            | 0.10   | ug/g     | 15-APR-20 | 15-APR-20 | R5057095 |
| Cadmium (Cd)                                                                           | <0.50   |            | 0.50   | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Chromium (Cr)                                                                          | 16.2    |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Cobalt (Co)                                                                            | 4.0     |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Copper (Cu)                                                                            | 16.1    |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Lead (Pb)                                                                              | 41.6    |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Mercury (Hg)                                                                           | 0.0623  |            | 0.0050 | ug/g     | 14-APR-20 | 15-APR-20 | R5057093 |
| Molybdenum (Mo)                                                                        | <1.0    |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Nickel (Ni)                                                                            | 8.3     |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Selenium (Se)                                                                          | <1.0    |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Silver (Ag)                                                                            | <0.20   |            | 0.20   | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Thallium (TI)                                                                          | <0.50   |            | 0.50   | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Uranium (U)                                                                            | <1.0    |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Vanadium (V)                                                                           | 24.7    |            | 1.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Zinc (Zn)                                                                              | 108     |            | 5.0    | ug/g     | 14-APR-20 | 15-APR-20 | R5056938 |
| Speciated Metals                                                                       |         |            |        |          |           |           |          |
| Chromium, Hexavalent                                                                   | 0.31    |            | 0.20   | ug/g     | 16-APR-20 | 17-APR-20 | R5058591 |
| Volatile Organic Compounds                                                             |         |            |        |          |           |           |          |
| Acetone                                                                                | <0.50   |            | 0.50   | ug/g     | 10-APR-20 | 15-APR-20 | R5056750 |
| Benzene                                                                                | <0.0068 |            | 0.0068 | ug/g     | 10-APR-20 | 15-APR-20 | R5056750 |
| Bromodichloromethane                                                                   | <0.050  |            | 0.050  | ug/g     | 10-APR-20 | 15-APR-20 | R5056750 |
| Bromoform                                                                              | <0.050  |            | 0.050  | ug/g     | 10-APR-20 | 15-APR-20 | R5056750 |
| Bromomethane                                                                           | <0.050  |            | 0.050  | ug/g     | 10-APR-20 | 15-APR-20 | R5056750 |
| Carbon tetrachloride                                                                   | <0.050  |            | 0.050  | ug/g     | 10-APR-20 | 15-APR-20 | R5056750 |
| Chlorobenzene                                                                          | <0.050  |            | 0.050  | ug/g     | 10-APR-20 | 15-APR-20 | R5056750 |
| Dibromochloromethane                                                                   | <0.050  |            | 0.050  | ug/g     | 10-APR-20 | 15-APR-20 | R5056750 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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Version: FINAL

| Sample Details/Parameters                                                              | Result       | Qualifier* | D.L.   | Units        | Extracted   | Analyzed  | Batch    |
|----------------------------------------------------------------------------------------|--------------|------------|--------|--------------|-------------|-----------|----------|
| L2436005-1 MW113-2.5-4.5<br>Sampled By: J. GOWING on 09-APR-20 @ 10:50<br>Matrix: SOIL |              |            |        |              |             |           |          |
| Volatile Organic Compounds                                                             |              |            |        |              |             |           |          |
| Chloroform                                                                             | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,2-Dibromoethane                                                                      | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,2-Dichlorobenzene                                                                    | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,3-Dichlorobenzene                                                                    | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,4-Dichlorobenzene                                                                    | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| Dichlorodifluoromethane                                                                | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,1-Dichloroethane                                                                     | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,2-Dichloroethane                                                                     | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,1-Dichloroethylene                                                                   | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| cis-1,2-Dichloroethylene                                                               | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| trans-1,2-Dichloroethylene                                                             | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| Methylene Chloride                                                                     | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,2-Dichloropropane                                                                    | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| cis-1,3-Dichloropropene                                                                | <0.030       |            | 0.030  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| trans-1,3-Dichloropropene                                                              | <0.030       |            | 0.030  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,3-Dichloropropene (cis & trans)                                                      | <0.042       |            | 0.042  | ug/g         |             | 15-APR-20 |          |
| Ethylbenzene                                                                           | <0.018       |            | 0.018  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| n-Hexane                                                                               | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| Methyl Ethyl Ketone                                                                    | <0.50        |            | 0.50   | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| Methyl Isobutyl Ketone                                                                 | <0.50        |            | 0.50   | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| MTBE                                                                                   | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| Styrene                                                                                | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,1,1,2-Tetrachloroethane                                                              | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,1,2,2-Tetrachloroethane                                                              | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| Tetrachloroethylene                                                                    | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| Toluene                                                                                | <0.080       |            | 0.080  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,1,1-Trichloroethane                                                                  | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| 1,1,2-Trichloroethane                                                                  | <0.050       |            | 0.050  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| Trichloroethylene                                                                      | <0.010       |            | 0.010  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| Trichlorofluoromethane                                                                 | <0.050       |            | 0.050  | ug/g         | 10-APR-20   |           | R5056750 |
| Vinyl chloride                                                                         | <0.020       |            | 0.020  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| o-Xylene                                                                               | <0.020       |            | 0.020  | ug/g         | 10-APR-20   | 15-APR-20 | R5056750 |
| m+p-Xylenes                                                                            | <0.030       |            | 0.030  | ug/g         | 10-APR-20   |           | R5056750 |
| Xylenes (Total)                                                                        | <0.050       |            | 0.050  | ug/g         |             | 15-APR-20 |          |
| Surrogate: 4-Bromofluorobenzene                                                        | 99.5         |            | 50-140 | %            | 10-APR-20   | 15-APR-20 | R5056750 |
| Surrogate: 1,4-Difluorobenzene  Hydrocarbons                                           | 112.5        |            | 50-140 | %            | 10-APR-20   | 15-APR-20 | R5056750 |
| F1 (C6-C10)                                                                            | <5.0         |            | 5.0    | na/a         | 10-APR-20   | 15-APR-20 | R5056750 |
| F1 (C6-C10) F1-BTEX                                                                    | <5.0<br><5.0 |            | 5.0    | ug/g         | 10-Al- N-20 | 15-APR-20 | 13030730 |
| F2 (C10-C16)                                                                           | <5.0<br><10  |            | 10     | ug/g<br>ug/g | 14-APR-20   |           | R5056757 |
| F2-Naphth                                                                              | <10          |            | 10     | ug/g<br>ug/g | 17 /11/1-20 | 15-APR-20 | 10000101 |
|                                                                                        |              |            | 10     | ~9/9         |             | 10741120  |          |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                                              | Result | Qualifier* | D.L.   | Units    | Extracted | Analyzed  | Batch    |
|----------------------------------------------------------------------------------------|--------|------------|--------|----------|-----------|-----------|----------|
| L2436005-1 MW113-2.5-4.5 Sampled By: J. GOWING on 09-APR-20 @ 10:50 Matrix: SOIL       |        |            |        |          |           |           |          |
| Hydrocarbons                                                                           |        |            |        |          |           |           |          |
| F3 (C16-C34)                                                                           | 54     |            | 50     | ug/g     | 14-APR-20 | 14-APR-20 | R5056757 |
| F3-PAH                                                                                 | 54     |            | 50     | ug/g     |           | 15-APR-20 |          |
| F4 (C34-C50)                                                                           | 181    |            | 50     | ug/g     | 14-APR-20 | 14-APR-20 | R5056757 |
| F4G-SG (GHH-Silica)                                                                    | 550    |            | 250    | ug/g     | 14-APR-20 | 14-APR-20 | R5056831 |
| Total Hydrocarbons (C6-C50)                                                            | 235    |            | 72     | ug/g     |           | 15-APR-20 |          |
| Chrom. to baseline at nC50                                                             | NO     |            |        |          | 14-APR-20 | 14-APR-20 | R5056757 |
| Surrogate: 2-Bromobenzotrifluoride                                                     | 104.2  |            | 60-140 | %        | 14-APR-20 | 14-APR-20 | R5056757 |
| Surrogate: 3,4-Dichlorotoluene                                                         | 82.1   |            | 60-140 | %        | 10-APR-20 | 15-APR-20 | R5056750 |
| Polycyclic Aromatic Hydrocarbons                                                       |        |            |        |          |           |           |          |
| Acenaphthene                                                                           | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Acenaphthylene                                                                         | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Anthracene                                                                             | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(a)anthracene                                                                     | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(a)pyrene                                                                         | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(b)fluoranthene                                                                   | 0.055  |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(g,h,i)perylene                                                                   | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(k)fluoranthene                                                                   | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Chrysene                                                                               | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Dibenzo(ah)anthracene                                                                  | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Fluoranthene                                                                           | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Fluorene                                                                               | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Indeno(1,2,3-cd)pyrene                                                                 | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| 1+2-Methylnaphthalenes                                                                 | <0.042 |            | 0.042  | ug/g     |           | 15-APR-20 |          |
| 1-Methylnaphthalene                                                                    | <0.030 |            | 0.030  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| 2-Methylnaphthalene                                                                    | <0.030 |            | 0.030  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Naphthalene                                                                            | <0.013 |            | 0.013  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Phenanthrene                                                                           | <0.046 |            | 0.046  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Pyrene                                                                                 | <0.050 |            | 0.050  | ug/g     | 14-APR-20 | 15-APR-20 | R5056710 |
| Surrogate: 2-Fluorobiphenyl                                                            | 98.1   |            | 50-140 | %        | 14-APR-20 | 15-APR-20 | R5056710 |
| Surrogate: p-Terphenyl d14                                                             | 110.6  |            | 50-140 | %        | 14-APR-20 | 15-APR-20 | R5056710 |
| L2436005-2 MW113-6.5-8.5<br>Sampled By: J. GOWING on 09-APR-20 @ 11:00<br>Matrix: SOIL | 11010  |            |        | ,,,      |           |           |          |
| Physical Tests                                                                         |        |            |        |          |           |           |          |
| Conductivity                                                                           | 1.87   |            | 0.0040 | mS/cm    |           | 17-APR-20 | R5057777 |
| % Moisture                                                                             | 5.03   |            | 0.25   | %        | 13-APR-20 | 14-APR-20 | R5056197 |
| pH                                                                                     | 8.13   |            | 0.10   | pH units |           | 14-APR-20 | R5056536 |
| Cyanides                                                                               |        |            |        |          |           |           |          |
| Cyanide, Weak Acid Diss                                                                | <0.050 |            | 0.050  | ug/g     | 13-APR-20 | 14-APR-20 | R5056331 |
| Saturated Paste Extractables                                                           |        |            |        |          |           |           |          |
| SAR                                                                                    | 108    | SAR:M      | 0.10   | SAR      |           | 15-APR-20 | R5057105 |
| Calcium (Ca)                                                                           | 0.79   |            | 0.50   | mg/L     |           | 15-APR-20 | R5057105 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                                              | Result  | Qualifier* | D.L.   | Units | Extracted  | Analyzed    | Batch                                   |
|----------------------------------------------------------------------------------------|---------|------------|--------|-------|------------|-------------|-----------------------------------------|
| L2436005-2 MW113-6.5-8.5<br>Sampled By: J. GOWING on 09-APR-20 @ 11:00<br>Matrix: SOIL |         |            |        |       |            |             |                                         |
| Saturated Paste Extractables                                                           |         |            |        |       |            |             |                                         |
| Magnesium (Mg)                                                                         | <0.50   |            | 0.50   | mg/L  |            | 15-APR-20   | R5057105                                |
| Sodium (Na)                                                                            | 349     |            | 0.50   | mg/L  |            | 15-APR-20   | R5057105                                |
| Metals                                                                                 |         |            |        |       |            |             |                                         |
| Antimony (Sb)                                                                          | <1.0    |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Arsenic (As)                                                                           | 2.8     |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Barium (Ba)                                                                            | 21.1    |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Beryllium (Be)                                                                         | <0.50   |            | 0.50   | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Boron (B)                                                                              | 6.2     |            | 5.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Boron (B), Hot Water Ext.                                                              | <0.10   |            | 0.10   | ug/g  | 15-APR-20  | 15-APR-20   | R5057095                                |
| Cadmium (Cd)                                                                           | <0.50   |            | 0.50   | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Chromium (Cr)                                                                          | 11.5    |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Cobalt (Co)                                                                            | 3.8     |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Copper (Cu)                                                                            | 10.4    |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Lead (Pb)                                                                              | 16.6    |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Mercury (Hg)                                                                           | <0.0050 |            | 0.0050 | ug/g  | 14-APR-20  | 15-APR-20   | R5057093                                |
| Molybdenum (Mo)                                                                        | <1.0    |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Nickel (Ni)                                                                            | 8.2     |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Selenium (Se)                                                                          | <1.0    |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Silver (Ag)                                                                            | <0.20   |            | 0.20   | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Thallium (TI)                                                                          | <0.50   |            | 0.50   | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Uranium (U)                                                                            | <1.0    |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Vanadium (V)                                                                           | 17.7    |            | 1.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Zinc (Zn) Speciated Metals                                                             | 94.9    |            | 5.0    | ug/g  | 14-APR-20  | 15-APR-20   | R5056938                                |
| Chromium, Hexavalent                                                                   | 0.44    |            | 0.20   | ug/g  | 16-APR-20  | 17-APR-20   | R5058591                                |
| Volatile Organic Compounds                                                             | 0.44    |            | 0.20   | ug/g  | 10 AI 10 Z | 17 71 10 20 | 100000000000000000000000000000000000000 |
| Acetone                                                                                | <0.50   |            | 0.50   | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| Benzene                                                                                | <0.0068 |            | 0.0068 | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| Bromodichloromethane                                                                   | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| Bromoform                                                                              | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| Bromomethane                                                                           | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| Carbon tetrachloride                                                                   | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| Chlorobenzene                                                                          | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| Dibromochloromethane                                                                   | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| Chloroform                                                                             | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| 1,2-Dibromoethane                                                                      | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| 1,2-Dichlorobenzene                                                                    | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| 1,3-Dichlorobenzene                                                                    | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| 1,4-Dichlorobenzene                                                                    | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| Dichlorodifluoromethane                                                                | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| 1,1-Dichloroethane                                                                     | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |
| 1,2-Dichloroethane                                                                     | <0.050  |            | 0.050  | ug/g  | 10-APR-20  | 15-APR-20   | R5056750                                |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| L2436005-2 MW113-6.5-8.5<br>Sampled By: J. GOWING on 09-APR-20 @ 11:00 |         |                |              |                        |           |                      |
|------------------------------------------------------------------------|---------|----------------|--------------|------------------------|-----------|----------------------|
| Sampled By: J. GOWING on 09-APR-20 @ 11:00                             |         |                |              |                        |           |                      |
|                                                                        |         |                |              |                        |           |                      |
| Matrix: SOIL  Volatile Organic Compounds                               |         |                |              |                        |           |                      |
| 1,1-Dichloroethylene                                                   | <0.050  | 0.050          | a/a          | 10-APR-20              | 15-APR-20 | DE0E67E0             |
| cis-1,2-Dichloroethylene                                               | <0.050  | 0.050<br>0.050 | ug/g<br>ug/g | 10-APR-20<br>10-APR-20 | 15-APR-20 | R5056750<br>R5056750 |
| trans-1,2-Dichloroethylene                                             | <0.050  | 0.050          | ug/g<br>ug/g | 10-APR-20              | 15-AFR-20 | R5056750             |
| Methylene Chloride                                                     | <0.050  | 0.050          | ug/g<br>ug/g | 10-AFR-20              | 15-AFR-20 | R5056750             |
| 1,2-Dichloropropane                                                    | <0.050  | 0.050          | ug/g<br>ug/g | 10-AFR-20              | 15-AFR-20 | R5056750             |
| cis-1,3-Dichloropropene                                                | <0.030  | 0.030          | ug/g<br>ug/g | 10-APR-20              | 15-APR-20 | R5056750             |
| trans-1,3-Dichloropropene                                              | <0.030  | 0.030          | ug/g<br>ug/g | 10-APR-20              | 15-APR-20 | R5056750             |
| 1,3-Dichloropropene (cis & trans)                                      | <0.042  | 0.042          | ug/g<br>ug/g | 10 74 10 20            | 15-APR-20 | 10000700             |
| Ethylbenzene                                                           | <0.018  | 0.018          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| n-Hexane                                                               | <0.050  | 0.050          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| Methyl Ethyl Ketone                                                    | <0.50   | 0.50           | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| Methyl Isobutyl Ketone                                                 | <0.50   | 0.50           | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| MTBE                                                                   | < 0.050 | 0.050          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| Styrene                                                                | <0.050  | 0.050          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| 1,1,1,2-Tetrachloroethane                                              | <0.050  | 0.050          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| 1,1,2,2-Tetrachloroethane                                              | <0.050  | 0.050          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| Tetrachloroethylene                                                    | <0.050  | 0.050          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| Toluene                                                                | <0.080  | 0.080          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| 1,1,1-Trichloroethane                                                  | <0.050  | 0.050          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| 1,1,2-Trichloroethane                                                  | <0.050  | 0.050          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| Trichloroethylene                                                      | <0.010  | 0.010          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| Trichlorofluoromethane                                                 | <0.050  | 0.050          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| Vinyl chloride                                                         | <0.020  | 0.020          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| o-Xylene                                                               | <0.020  | 0.020          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| m+p-Xylenes                                                            | <0.030  | 0.030          | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| Xylenes (Total)                                                        | <0.050  | 0.050          | ug/g         |                        | 15-APR-20 |                      |
| Surrogate: 4-Bromofluorobenzene                                        | 99.6    | 50-140         | %            | 10-APR-20              | 15-APR-20 | R5056750             |
| Surrogate: 1,4-Difluorobenzene                                         | 113.6   | 50-140         | %            | 10-APR-20              | 15-APR-20 | R5056750             |
| Hydrocarbons                                                           |         |                |              |                        |           |                      |
| F1 (C6-C10)                                                            | <5.0    | 5.0            | ug/g         | 10-APR-20              | 15-APR-20 | R5056750             |
| F1-BTEX                                                                | <5.0    | 5.0            | ug/g         |                        | 15-APR-20 |                      |
| F2 (C10-C16)                                                           | <10     | 10             | ug/g         | 14-APR-20              | 14-APR-20 | R5056757             |
| F2-Naphth                                                              | <10     | 10             | ug/g         |                        | 15-APR-20 |                      |
| F3 (C16-C34)                                                           | <50     | 50             | ug/g         | 14-APR-20              | 14-APR-20 | R5056757             |
| F3-PAH                                                                 | <50     | 50             | ug/g         |                        | 15-APR-20 |                      |
| F4 (C34-C50)                                                           | <50     | 50             | ug/g         | 14-APR-20              | 14-APR-20 | R5056757             |
| Total Hydrocarbons (C6-C50)                                            | <72     | 72             | ug/g         |                        | 15-APR-20 |                      |
| Chrom. to baseline at nC50                                             | YES     |                |              | 14-APR-20              | 14-APR-20 |                      |
| Surrogate: 2-Bromobenzotrifluoride                                     | 82.5    | 60-140         | %            | 14-APR-20              |           | R5056757             |
| Surrogate: 3,4-Dichlorotoluene                                         | 72.5    | 60-140         | %            | 10-APR-20              | 15-APR-20 | R5056750             |
| Polycyclic Aromatic Hydrocarbons                                       |         |                |              |                        |           |                      |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                                              | Result | Qualifier* D.L. | Units | Extracted | Analyzed  | Batch    |
|----------------------------------------------------------------------------------------|--------|-----------------|-------|-----------|-----------|----------|
| L2436005-2 MW113-6.5-8.5<br>Sampled By: J. GOWING on 09-APR-20 @ 11:00<br>Matrix: SOIL |        |                 |       |           |           |          |
| Polycyclic Aromatic Hydrocarbons                                                       |        |                 |       |           |           |          |
| Acenaphthene                                                                           | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Acenaphthylene                                                                         | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Anthracene                                                                             | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(a)anthracene                                                                     | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(a)pyrene                                                                         | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(b)fluoranthene                                                                   | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(g,h,i)perylene                                                                   | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Benzo(k)fluoranthene                                                                   | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Chrysene                                                                               | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Dibenzo(ah)anthracene                                                                  | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Fluoranthene                                                                           | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Fluorene                                                                               | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Indeno(1,2,3-cd)pyrene                                                                 | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| 1+2-Methylnaphthalenes                                                                 | <0.042 | 0.042           | ug/g  |           | 15-APR-20 |          |
| 1-Methylnaphthalene                                                                    | <0.030 | 0.030           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| 2-Methylnaphthalene                                                                    | <0.030 | 0.030           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Naphthalene                                                                            | <0.013 | 0.013           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Phenanthrene                                                                           | <0.046 | 0.046           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Pyrene                                                                                 | <0.050 | 0.050           | ug/g  | 14-APR-20 | 15-APR-20 | R5056710 |
| Surrogate: 2-Fluorobiphenyl                                                            | 97.3   | 50-140          | %     | 14-APR-20 | 15-APR-20 | R5056710 |
| Surrogate: p-Terphenyl d14                                                             | 110.8  | 50-140          | %     | 14-APR-20 | 15-APR-20 | R5056710 |
| L2436005-5 BH207L-1-2 Sampled By: J. GOWING on 09-APR-20 @ 14:10 Matrix: SOIL          |        |                 |       |           |           |          |
| Physical Tests                                                                         |        |                 |       |           |           |          |
| % Moisture                                                                             | 5.33   | 0.25            | %     | 13-APR-20 | 14-APR-20 | R5056197 |
| Hydrocarbons                                                                           |        |                 |       |           |           |          |
| F1 (C6-C10)                                                                            | <5.0   | 5.0             | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| F2 (C10-C16)                                                                           | <10    | 10              | ug/g  | 14-APR-20 | 14-APR-20 | R5056757 |
| F3 (C16-C34)                                                                           | <50    | 50              | ug/g  | 14-APR-20 | 14-APR-20 | R5056757 |
| F4 (C34-C50)                                                                           | <50    | 50              | ug/g  | 14-APR-20 | 14-APR-20 | R5056757 |
| Total Hydrocarbons (C6-C50)                                                            | <72    | 72              | ug/g  |           | 15-APR-20 |          |
| Chrom. to baseline at nC50                                                             | YES    |                 |       | 14-APR-20 | 14-APR-20 | R5056757 |
| Surrogate: 2-Bromobenzotrifluoride                                                     | 97.5   | 60-140          | %     | 14-APR-20 | 14-APR-20 | R5056757 |
| Surrogate: 3,4-Dichlorotoluene                                                         | 80.9   | 60-140          | %     | 10-APR-20 | 15-APR-20 | R5056750 |
| L2436005-6 BH207L-7.5-9.5 Sampled By: J. GOWING on 09-APR-20 @ 14:30 Matrix: SOIL      |        |                 |       |           |           |          |
| Physical Tests                                                                         |        |                 |       |           |           |          |
| % Moisture                                                                             | 10.9   | 0.25            | %     | 13-APR-20 | 14-APR-20 | R5056197 |
| Hydrocarbons                                                                           |        |                 |       |           |           |          |
| F1 (C6-C10)                                                                            | <5.0   | 5.0             | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                                               | Result  | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------------------------|---------|------------|--------|-------|-----------|-----------|----------|
| L2436005-6 BH207L-7.5-9.5<br>Sampled By: J. GOWING on 09-APR-20 @ 14:30<br>Matrix: SOIL |         |            |        |       |           |           |          |
| Hydrocarbons                                                                            |         |            |        |       |           |           |          |
| F2 (C10-C16)                                                                            | <10     |            | 10     | ug/g  | 14-APR-20 | 14-APR-20 | R5056757 |
| F3 (C16-C34)                                                                            | <50     |            | 50     | ug/g  | 14-APR-20 | 14-APR-20 | R5056757 |
| F4 (C34-C50)                                                                            | <50     |            | 50     | ug/g  | 14-APR-20 | 14-APR-20 | R5056757 |
| Total Hydrocarbons (C6-C50)                                                             | <72     |            | 72     | ug/g  |           | 15-APR-20 |          |
| Chrom. to baseline at nC50                                                              | YES     |            |        |       | 14-APR-20 | 14-APR-20 | R5056757 |
| Surrogate: 2-Bromobenzotrifluoride                                                      | 100.2   |            | 60-140 | %     | 14-APR-20 | 14-APR-20 | R5056757 |
| Surrogate: 3,4-Dichlorotoluene                                                          | 75.9    |            | 60-140 | %     | 10-APR-20 | 15-APR-20 | R5056750 |
| L2436005-7 TRIP BLANK Sampled By: J. GOWING on 09-APR-20 Matrix: SOIL                   |         |            |        |       |           |           |          |
| Physical Tests                                                                          |         |            |        |       |           |           |          |
| % Moisture                                                                              | <0.25   |            | 0.25   | %     | 13-APR-20 | 14-APR-20 | R5056197 |
| Volatile Organic Compounds                                                              |         |            |        |       |           |           |          |
| Acetone                                                                                 | <0.50   |            | 0.50   | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Benzene                                                                                 | <0.0068 |            | 0.0068 | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Bromodichloromethane                                                                    | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Bromoform                                                                               | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Bromomethane                                                                            | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Carbon tetrachloride                                                                    | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Chlorobenzene                                                                           | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Dibromochloromethane                                                                    | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Chloroform                                                                              | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,2-Dibromoethane                                                                       | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,2-Dichlorobenzene                                                                     | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,3-Dichlorobenzene                                                                     | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,4-Dichlorobenzene                                                                     | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Dichlorodifluoromethane                                                                 | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,1-Dichloroethane                                                                      | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,2-Dichloroethane                                                                      | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,1-Dichloroethylene                                                                    | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| cis-1,2-Dichloroethylene                                                                | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| trans-1,2-Dichloroethylene                                                              | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Methylene Chloride                                                                      | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,2-Dichloropropane                                                                     | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| cis-1,3-Dichloropropene                                                                 | <0.030  |            | 0.030  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| trans-1,3-Dichloropropene                                                               | <0.030  |            | 0.030  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,3-Dichloropropene (cis & trans)                                                       | <0.042  |            | 0.042  | ug/g  |           | 15-APR-20 |          |
| Ethylbenzene                                                                            | <0.018  |            | 0.018  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| n-Hexane                                                                                | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Methyl Ethyl Ketone                                                                     | <0.50   |            | 0.50   | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Methyl Isobutyl Ketone                                                                  | <0.50   |            | 0.50   | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| MTBE                                                                                    | <0.050  |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                             | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2436005-7 TRIP BLANK Sampled By: J. GOWING on 09-APR-20 Matrix: SOIL |        |            |        |       |           |           |          |
| Volatile Organic Compounds                                            |        |            |        |       |           |           |          |
| Styrene                                                               | <0.050 |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,1,1,2-Tetrachloroethane                                             | <0.050 |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,1,2,2-Tetrachloroethane                                             | <0.050 |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Tetrachloroethylene                                                   | <0.050 |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Toluene                                                               | <0.080 |            | 0.080  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,1,1-Trichloroethane                                                 | <0.050 |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| 1,1,2-Trichloroethane                                                 | <0.050 |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Trichloroethylene                                                     | <0.010 |            | 0.010  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Trichlorofluoromethane                                                | <0.050 |            | 0.050  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Vinyl chloride                                                        | <0.020 |            | 0.020  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| o-Xylene                                                              | <0.020 |            | 0.020  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| m+p-Xylenes                                                           | <0.030 |            | 0.030  | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Xylenes (Total)                                                       | <0.050 |            | 0.050  | ug/g  |           | 15-APR-20 |          |
| Surrogate: 4-Bromofluorobenzene                                       | 94.7   |            | 50-140 | %     | 10-APR-20 | 15-APR-20 | R5056750 |
| Surrogate: 1,4-Difluorobenzene                                        | 108.8  |            | 50-140 | %     | 10-APR-20 | 15-APR-20 | R5056750 |
| Hydrocarbons                                                          |        |            |        |       |           |           |          |
| F1 (C6-C10)                                                           | <5.0   |            | 5.0    | ug/g  | 10-APR-20 | 15-APR-20 | R5056750 |
| Surrogate: 3,4-Dichlorotoluene                                        | 81.3   |            | 60-140 | %     | 10-APR-20 | 15-APR-20 | R5056750 |
|                                                                       |        |            |        |       |           |           |          |
|                                                                       |        |            |        |       |           |           |          |
|                                                                       |        |            |        |       |           |           |          |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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#### Reference Information

QC Samples with Qualifiers & Comments:

| QC Type Description       | Parameter               | Qualifier | Applies to Sample Number(s) |
|---------------------------|-------------------------|-----------|-----------------------------|
| Laboratory Control Sample | Dichlorodifluoromethane | MES       | L2436005-1, -2, -7          |

#### Sample Parameter Qualifier key listed:

|           | <u> </u>                                                                                                                                                                            |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Qualifier | Description                                                                                                                                                                         |
| MES       | Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME). |
| 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).

CN-WAD-R511-WT Soil Cyanide (WAD)-O.Reg 153/04 (July 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).

CR-CR6-IC-WT 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 CCME CWS-PHC, Pub #1310, Dec 2001-S Soil F1-F4 Hydrocarbon Calculated

Parameters

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.

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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), 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), 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).

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 200.2/6020A (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), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG

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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).

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).

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), 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- Soil Sum of Xylene Isomer CALCULATION

WT Concentrations

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:

17-795995

#### **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.



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                                         | Matrix | Reference                  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------------------------|--------|----------------------------|--------|-----------|-------|-----|--------|-----------|
| B-HWS-R511-WT                                                | Soil   |                            |        |           |       |     |        |           |
| Batch R5057095<br>WG3307821-4 DUP<br>Boron (B), Hot Water Ex | rt.    | <b>L2436017-12</b> 0.11    | 0.11   |           | ug/g  | 4.6 | 30     | 15-APR-20 |
| WG3307821-2 IRM<br>Boron (B), Hot Water Ex                   | rt.    | WT SAR4                    | 96.9   |           | %     |     | 70-130 | 15-APR-20 |
| WG3307821-3 LCS<br>Boron (B), Hot Water Ex                   | t.     |                            | 99.9   |           | %     |     | 70-130 | 15-APR-20 |
| WG3307821-1 MB<br>Boron (B), Hot Water Ex                    | rt.    |                            | <0.10  |           | ug/g  |     | 0.1    | 15-APR-20 |
| CN-WAD-R511-WT                                               | Soil   |                            |        |           |       |     |        |           |
| Batch R5056331                                               |        |                            |        |           |       |     |        |           |
| WG3306955-3 DUP<br>Cyanide, Weak Acid Dis                    | s      | <b>L2435780-3</b> <0.050   | <0.050 | RPD-NA    | ug/g  | N/A | 35     | 14-APR-20 |
| WG3306955-2 LCS<br>Cyanide, Weak Acid Dis                    | s      |                            | 98.0   |           | %     |     | 80-120 | 14-APR-20 |
| WG3306955-1 MB<br>Cyanide, Weak Acid Dis                     | s      |                            | <0.050 |           | ug/g  |     | 0.05   | 14-APR-20 |
| WG3306955-4 MS<br>Cyanide, Weak Acid Dis                     | S      | L2435780-3                 | 99.3   |           | %     |     | 70-130 | 14-APR-20 |
| CR-CR6-IC-WT                                                 | Soil   |                            |        |           |       |     |        |           |
| Batch R5058591                                               |        |                            |        |           |       |     |        |           |
| WG3308769-4 CRM<br>Chromium, Hexavalent                      |        | WT-SQC012                  | 90.1   |           | %     |     | 70-130 | 17-APR-20 |
| WG3308769-3 DUP<br>Chromium, Hexavalent                      |        | <b>L2436005-1</b> 0.31     | 0.32   |           | ug/g  | 5.2 | 35     | 17-APR-20 |
| WG3308769-2 LCS<br>Chromium, Hexavalent                      |        |                            | 101.0  |           | %     |     | 80-120 | 17-APR-20 |
| WG3308769-1 MB<br>Chromium, Hexavalent                       |        |                            | <0.20  |           | ug/g  |     | 0.2    | 17-APR-20 |
| EC-WT                                                        | Soil   |                            |        |           |       |     |        |           |
| Batch R5057777                                               |        |                            |        |           |       |     |        |           |
| WG3307822-4 DUP<br>Conductivity                              |        | <b>WG3307822-3</b><br>1.41 | 1.28   |           | mS/cm | 9.6 | 20     | 17-APR-20 |
| WG3307822-2 IRM<br>Conductivity                              |        | WT SAR4                    | 108.1  |           | %     |     | 70-130 | 17-APR-20 |
| WG3308087-1 LCS<br>Conductivity                              |        |                            | 100.0  |           | %     |     | 90-110 | 17-APR-20 |
| WG3307822-1 MB                                               |        |                            |        |           |       |     |        |           |



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CH2M HILL CANADA LIMITED Client:

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

| Test                                    |              | Matrix       | Reference               | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|-----------------------------------------|--------------|--------------|-------------------------|---------|-----------|-------|-----|--------|-----------|
| EC-WT                                   |              | Soil         |                         |         |           |       |     |        |           |
| Batch R5<br>WG3307822-1<br>Conductivity | 057777<br>MB |              |                         | <0.0040 |           | mS/cm |     | 0.004  | 17-APR-20 |
| F1-HS-511-WT                            |              | Soil         |                         |         |           |       |     |        |           |
| Batch R5                                | 056750       |              |                         |         |           |       |     |        |           |
| <b>WG3306504-4</b><br>F1 (C6-C10)       | DUP          |              | <b>WG3306504-3</b> <5.0 | <5.0    | RPD-NA    | ug/g  | N/A | 30     | 15-APR-20 |
| <b>WG3306504-2</b><br>F1 (C6-C10)       | LCS          |              |                         | 107.5   |           | %     |     | 80-120 | 15-APR-20 |
| <b>WG3306504-1</b><br>F1 (C6-C10)       | MB           |              |                         | <5.0    |           | ug/g  |     | 5      | 15-APR-20 |
| Surrogate: 3,4-I                        | Dichloroto   | oluene       |                         | 84.1    |           | %     |     | 60-140 | 15-APR-20 |
| <b>WG3306504-6</b><br>F1 (C6-C10)       | MS           |              | L2435780-6              | 114.1   |           | %     |     | 60-140 | 15-APR-20 |
| F2-F4-511-WT                            |              | Soil         |                         |         |           |       |     |        |           |
| Batch R5                                | 056757       |              |                         |         |           |       |     |        |           |
| WG3307349-3                             | DUP          |              | WG3307349-5             |         |           |       |     |        |           |
| F2 (C10-C16)                            |              |              | <10                     | <10     | RPD-NA    | ug/g  | N/A | 30     | 14-APR-20 |
| F3 (C16-C34)                            |              |              | <50                     | <50     | RPD-NA    | ug/g  | N/A | 30     | 14-APR-20 |
| F4 (C34-C50)                            |              |              | <50                     | <50     | RPD-NA    | ug/g  | N/A | 30     | 14-APR-20 |
| <b>WG3307349-2</b><br>F2 (C10-C16)      | LCS          |              |                         | 111.9   |           | %     |     | 80-120 | 15-APR-20 |
| F3 (C16-C34)                            |              |              |                         | 112.9   |           | %     |     | 80-120 | 15-APR-20 |
| F4 (C34-C50)                            |              |              |                         | 111.3   |           | %     |     | 80-120 | 15-APR-20 |
| <b>WG3307349-1</b><br>F2 (C10-C16)      | MB           |              |                         | <10     |           | ug/g  |     | 10     | 14-APR-20 |
| F3 (C16-C34)                            |              |              |                         | <50     |           | ug/g  |     | 50     | 14-APR-20 |
| F4 (C34-C50)                            |              |              |                         | <50     |           | ug/g  |     | 50     | 14-APR-20 |
| Surrogate: 2-Br                         | omobenz      | otrifluoride |                         | 92.3    |           | %     |     | 60-140 | 14-APR-20 |
| WG3307349-4                             | MS           |              | WG3307349-5             |         |           |       |     |        |           |
| F2 (C10-C16)                            |              |              |                         | 109.1   |           | %     |     | 60-140 | 15-APR-20 |
| F3 (C16-C34)                            |              |              |                         | 110.0   |           | %     |     | 60-140 | 15-APR-20 |
| F4 (C34-C50)                            |              |              |                         | 107.7   |           | %     |     | 60-140 | 15-APR-20 |
| F4G-ADD-511-WT                          |              | Soil         |                         |         |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                          | Matrix | Reference   | Result                | Qualifier | Units | RPD | Limit            | Analyzed               |
|-----------------------------------------------|--------|-------------|-----------------------|-----------|-------|-----|------------------|------------------------|
| F4G-ADD-511-WT                                | Soil   |             |                       |           |       |     |                  |                        |
| Batch R5056831                                |        |             |                       |           |       |     |                  |                        |
| <b>WG3308093-2 LCS</b><br>F4G-SG (GHH-Silica) |        |             | 83.6                  |           | %     |     | 60-140           | 14-APR-20              |
| <b>WG3308093-1 MB</b><br>F4G-SG (GHH-Silica)  |        |             | <250                  |           | ug/g  |     | 250              | 14-APR-20              |
| HG-200.2-CVAA-WT                              | Soil   |             |                       |           |       |     |                  |                        |
| Batch R5057093                                |        |             |                       |           |       |     |                  |                        |
| WG3307816-2 CRM<br>Mercury (Hg)               |        | WT-CANMET-  | <b>TILL2</b><br>129.4 |           | %     |     | 70-130           | 15-APR-20              |
| WG3307816-6 DUP                               |        | WG3307816-5 |                       |           |       |     |                  |                        |
| Mercury (Hg)                                  |        | 0.0100      | 0.0100                |           | ug/g  | 0.5 | 40               | 15-APR-20              |
| WG3307816-3 LCS                               |        |             |                       |           |       |     |                  |                        |
| Mercury (Hg)                                  |        |             | 112.0                 |           | %     |     | 80-120           | 15-APR-20              |
| WG3307816-1 MB<br>Mercury (Hg)                |        |             | <0.0050               |           | mg/kg |     | 0.005            | 15-APR-20              |
| MET-200.2-CCMS-WT                             | Soil   |             |                       |           |       |     |                  |                        |
| Batch R5056938                                |        |             |                       |           |       |     |                  |                        |
| WG3307816-2 CRM<br>Antimony (Sb)              |        | WT-CANMET-  | <b>TILL2</b><br>86.0  |           | %     |     | 70.400           | 45 ADD 00              |
| Arsenic (As)                                  |        |             | 109.5                 |           | %     |     | 70-130           | 15-APR-20              |
| Barium (Ba)                                   |        |             | 109.5                 |           | %     |     | 70-130<br>70-130 | 15-APR-20              |
| Beryllium (Be)                                |        |             | 100.9                 |           | %     |     | 70-130<br>70-130 | 15-APR-20              |
| Boron (B)                                     |        |             | 2.9                   |           | mg/kg |     | 0-8.6            | 15-APR-20<br>15-APR-20 |
| Cadmium (Cd)                                  |        |             | 102.3                 |           | %     |     | 70-130           | 15-APR-20<br>15-APR-20 |
| Chromium (Cr)                                 |        |             | 108.1                 |           | %     |     | 70-130           | 15-APR-20              |
| Cobalt (Co)                                   |        |             | 109.5                 |           | %     |     | 70-130           | 15-APR-20              |
| Copper (Cu)                                   |        |             | 109.9                 |           | %     |     | 70-130           | 15-APR-20              |
| Lead (Pb)                                     |        |             | 105.1                 |           | %     |     | 70-130           | 15-APR-20              |
| Molybdenum (Mo)                               |        |             | 105.9                 |           | %     |     | 70-130           | 15-APR-20              |
| Nickel (Ni)                                   |        |             | 110.6                 |           | %     |     | 70-130           | 15-APR-20              |
| Selenium (Se)                                 |        |             | 0.37                  |           | mg/kg |     | 0.15-0.55        | 15-APR-20              |
| Silver (Ag)                                   |        |             | 0.27                  |           | mg/kg |     | 0.16-0.36        | 15-APR-20              |
| Thallium (TI)                                 |        |             | 100.4                 |           | %     |     | 70-130           | 15-APR-20              |
| Uranium (U)                                   |        |             | 96.1                  |           | %     |     | 70-130           | 15-APR-20              |
| Vanadium (V)                                  |        |             | 108.5                 |           | %     |     | 70-130           | 15-APR-20              |
| Zinc (Zn)                                     |        |             | 106.4                 |           | %     |     | 70-130           | 15-APR-20              |
| WG3307816-6 DUP                               |        | WG3307816-5 |                       |           |       |     |                  |                        |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test              | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------|--------|-----------|--------|-----------|-------|-----|--------|-----------|
| MET-200.2-CCMS-WT | Soil   |           |        |           |       |     |        |           |
| Batch R5056938    |        |           |        |           |       |     |        |           |
| WG3307816-6 DUP   |        | WG3307816 |        |           |       |     |        |           |
| Antimony (Sb)     |        | <0.10     | <0.10  | RPD-NA    | ug/g  | N/A | 30     | 15-APR-20 |
| Arsenic (As)      |        | 3.06      | 3.03   |           | ug/g  | 1.1 | 30     | 15-APR-20 |
| Barium (Ba)       |        | 24.9      | 23.5   |           | ug/g  | 5.9 | 40     | 15-APR-20 |
| Beryllium (Be)    |        | 0.24      | 0.25   |           | ug/g  | 1.4 | 30     | 15-APR-20 |
| Boron (B)         |        | <5.0      | <5.0   | RPD-NA    | ug/g  | N/A | 30     | 15-APR-20 |
| Cadmium (Cd)      |        | 0.064     | 0.057  |           | ug/g  | 10  | 30     | 15-APR-20 |
| Chromium (Cr)     |        | 10.1      | 9.48   |           | ug/g  | 6.1 | 30     | 15-APR-20 |
| Cobalt (Co)       |        | 4.81      | 4.59   |           | ug/g  | 4.8 | 30     | 15-APR-20 |
| Copper (Cu)       |        | 17.1      | 16.1   |           | ug/g  | 6.0 | 30     | 15-APR-20 |
| Lead (Pb)         |        | 5.40      | 5.04   |           | ug/g  | 6.9 | 40     | 15-APR-20 |
| Molybdenum (Mo)   |        | 0.26      | 0.27   |           | ug/g  | 0.5 | 40     | 15-APR-20 |
| Nickel (Ni)       |        | 9.41      | 9.03   |           | ug/g  | 4.1 | 30     | 15-APR-20 |
| Selenium (Se)     |        | <0.20     | <0.20  | RPD-NA    | ug/g  | N/A | 30     | 15-APR-20 |
| Silver (Ag)       |        | <0.10     | <0.10  | RPD-NA    | ug/g  | N/A | 40     | 15-APR-20 |
| Thallium (TI)     |        | 0.061     | 0.057  |           | ug/g  | 5.8 | 30     | 15-APR-20 |
| Uranium (U)       |        | 0.431     | 0.353  |           | ug/g  | 20  | 30     | 15-APR-20 |
| Vanadium (V)      |        | 18.7      | 18.6   |           | ug/g  | 0.1 | 30     | 15-APR-20 |
| Zinc (Zn)         |        | 29.8      | 28.1   |           | ug/g  | 5.9 | 30     | 15-APR-20 |
| WG3307816-4 LCS   |        |           |        |           |       |     |        |           |
| Antimony (Sb)     |        |           | 101.3  |           | %     |     | 80-120 | 15-APR-20 |
| Arsenic (As)      |        |           | 103.7  |           | %     |     | 80-120 | 15-APR-20 |
| Barium (Ba)       |        |           | 102.3  |           | %     |     | 80-120 | 15-APR-20 |
| Beryllium (Be)    |        |           | 94.5   |           | %     |     | 80-120 | 15-APR-20 |
| Boron (B)         |        |           | 88.9   |           | %     |     | 80-120 | 15-APR-20 |
| Cadmium (Cd)      |        |           | 95.9   |           | %     |     | 80-120 | 15-APR-20 |
| Chromium (Cr)     |        |           | 101.3  |           | %     |     | 80-120 | 15-APR-20 |
| Cobalt (Co)       |        |           | 100.3  |           | %     |     | 80-120 | 15-APR-20 |
| Copper (Cu)       |        |           | 100.2  |           | %     |     | 80-120 | 15-APR-20 |
| Lead (Pb)         |        |           | 96.7   |           | %     |     | 80-120 | 15-APR-20 |
| Molybdenum (Mo)   |        |           | 99.6   |           | %     |     | 80-120 | 15-APR-20 |
| Nickel (Ni)       |        |           | 100.9  |           | %     |     | 80-120 | 15-APR-20 |
| Selenium (Se)     |        |           | 97.4   |           | %     |     | 80-120 | 15-APR-20 |
| Silver (Ag)       |        |           | 98.0   |           | %     |     | 80-120 | 15-APR-20 |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| MET-200.2-CCMS-WT                   | Soil   |            |        |           |       |     |        | _         |
| Batch R5056938                      |        |            |        |           |       |     |        |           |
| WG3307816-4 LCS<br>Thallium (TI)    |        |            | 98.3   |           | %     |     | 80-120 | 15-APR-20 |
| Uranium (U)                         |        |            | 91.8   |           | %     |     | 80-120 | 15-APR-20 |
| Vanadium (V)                        |        |            | 106.5  |           | %     |     | 80-120 | 15-APR-20 |
| Zinc (Zn)                           |        |            | 100.7  |           | %     |     | 80-120 | 15-APR-20 |
| WG3307816-1 MB                      |        |            |        |           |       |     | 00 .20 |           |
| Antimony (Sb)                       |        |            | <0.10  |           | mg/kg |     | 0.1    | 15-APR-20 |
| Arsenic (As)                        |        |            | <0.10  |           | mg/kg |     | 0.1    | 15-APR-20 |
| Barium (Ba)                         |        |            | <0.50  |           | mg/kg |     | 0.5    | 15-APR-20 |
| Beryllium (Be)                      |        |            | <0.10  |           | mg/kg |     | 0.1    | 15-APR-20 |
| Boron (B)                           |        |            | <5.0   |           | mg/kg |     | 5      | 15-APR-20 |
| Cadmium (Cd)                        |        |            | <0.020 |           | mg/kg |     | 0.02   | 15-APR-20 |
| Chromium (Cr)                       |        |            | <0.50  |           | mg/kg |     | 0.5    | 15-APR-20 |
| Cobalt (Co)                         |        |            | <0.10  |           | mg/kg |     | 0.1    | 15-APR-20 |
| Copper (Cu)                         |        |            | <0.50  |           | mg/kg |     | 0.5    | 15-APR-20 |
| Lead (Pb)                           |        |            | <0.50  |           | mg/kg |     | 0.5    | 15-APR-20 |
| Molybdenum (Mo)                     |        |            | <0.10  |           | mg/kg |     | 0.1    | 15-APR-20 |
| Nickel (Ni)                         |        |            | <0.50  |           | mg/kg |     | 0.5    | 15-APR-20 |
| Selenium (Se)                       |        |            | <0.20  |           | mg/kg |     | 0.2    | 15-APR-20 |
| Silver (Ag)                         |        |            | <0.10  |           | mg/kg |     | 0.1    | 15-APR-20 |
| Thallium (TI)                       |        |            | <0.050 |           | mg/kg |     | 0.05   | 15-APR-20 |
| Uranium (U)                         |        |            | <0.050 |           | mg/kg |     | 0.05   | 15-APR-20 |
| Vanadium (V)                        |        |            | <0.20  |           | mg/kg |     | 0.2    | 15-APR-20 |
| Zinc (Zn)                           |        |            | <2.0   |           | mg/kg |     | 2      | 15-APR-20 |
| MOISTURE-WT                         | Soil   |            |        |           |       |     |        |           |
| Batch R5056197                      |        |            |        |           |       |     |        |           |
| WG3306961-3 DUP                     |        | L2435780-3 | 0.07   |           | 0/    |     |        |           |
| % Moisture                          |        | 9.04       | 8.84   |           | %     | 2.2 | 20     | 14-APR-20 |
| WG3306961-2 LCS<br>% Moisture       |        |            | 100.5  |           | %     |     | 90-110 | 14-APR-20 |
| <b>WG3306961-1 MB</b><br>% Moisture |        |            | <0.25  |           | %     |     | 0.25   | 14-APR-20 |
| PAH-511-WT                          | Soil   |            |        |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                                     | Matrix | Reference                 | Result | Qualifier | Units     | RPD   | Limit  | Analyzed  |
|----------------------------------------------------------|--------|---------------------------|--------|-----------|-----------|-------|--------|-----------|
| PAH-511-WT                                               | Soil   |                           |        |           |           |       |        |           |
| Batch R5056710<br>WG3307339-3 DUP<br>1-Methylnaphthalene |        | <b>WG3307339-5</b> <0.030 | <0.030 | RPD-NA    | ug/g      | NI/A  | 40     | 45 ADD 00 |
| 2-Methylnaphthalene                                      |        | <0.030                    | <0.030 |           | ug/g      | N/A   | 40     | 15-APR-20 |
| Acenaphthene                                             |        | <0.050                    | <0.050 | RPD-NA    | ug/g      | N/A   | 40     | 15-APR-20 |
| Acenaphthylene                                           |        | <0.050                    | <0.050 | RPD-NA    | ug/g      | N/A   | 40     | 15-APR-20 |
| Anthracene                                               |        | <0.050                    |        | RPD-NA    | ug/g      | N/A   | 40     | 15-APR-20 |
|                                                          |        | 0.074                     | <0.050 | RPD-NA    | ug/g      | N/A   | 40     | 15-APR-20 |
| Benzo(a)anthracene                                       |        |                           | 0.054  | DDD 114   | ug/g      | 31    | 40     | 15-APR-20 |
| Benzo(a)pyrene                                           |        | 0.058                     | <0.050 | RPD-NA    | ug/g      | N/A   | 40     | 15-APR-20 |
| Benzo(b)fluoranthene                                     |        | 0.070                     | 0.051  |           | ug/g<br>, | 31    | 40     | 15-APR-20 |
| Benzo(g,h,i)perylene                                     |        | <0.050                    | <0.050 | RPD-NA    | ug/g<br>, | N/A   | 40     | 15-APR-20 |
| Benzo(k)fluoranthene                                     |        | <0.050                    | <0.050 | RPD-NA    | ug/g<br>, | N/A   | 40     | 15-APR-20 |
| Chrysene                                                 |        | 0.079                     | 0.059  |           | ug/g      | 29    | 40     | 15-APR-20 |
| Dibenzo(ah)anthracene                                    |        | <0.050                    | <0.050 | RPD-NA    | ug/g      | N/A   | 40     | 15-APR-20 |
| Fluoranthene                                             |        | 0.145                     | 0.107  |           | ug/g      | 31    | 40     | 15-APR-20 |
| Fluorene                                                 |        | <0.050                    | <0.050 | RPD-NA    | ug/g      | N/A   | 40     | 15-APR-20 |
| Indeno(1,2,3-cd)pyrene                                   |        | <0.050                    | <0.050 | RPD-NA    | ug/g      | N/A   | 40     | 15-APR-20 |
| Naphthalene                                              |        | <0.013                    | <0.013 | RPD-NA    | ug/g      | N/A   | 40     | 15-APR-20 |
| Phenanthrene                                             |        | 0.123                     | 0.081  | J         | ug/g      | 0.041 | 0.092  | 15-APR-20 |
| Pyrene                                                   |        | 0.122                     | 0.089  |           | ug/g      | 31    | 40     | 15-APR-20 |
| WG3307339-2 LCS<br>1-Methylnaphthalene                   |        |                           | 99.7   |           | %         |       | 50-140 | 15-APR-20 |
| 2-Methylnaphthalene                                      |        |                           | 94.2   |           | %         |       | 50-140 | 15-APR-20 |
| Acenaphthene                                             |        |                           | 101.4  |           | %         |       | 50-140 | 15-APR-20 |
| Acenaphthylene                                           |        |                           | 102.6  |           | %         |       | 50-140 | 15-APR-20 |
| Anthracene                                               |        |                           | 104.6  |           | %         |       | 50-140 | 15-APR-20 |
| Benzo(a)anthracene                                       |        |                           | 104.3  |           | %         |       | 50-140 | 15-APR-20 |
| Benzo(a)pyrene                                           |        |                           | 101.6  |           | %         |       | 50-140 | 15-APR-20 |
| Benzo(b)fluoranthene                                     |        |                           | 98.8   |           | %         |       | 50-140 | 15-APR-20 |
| Benzo(g,h,i)perylene                                     |        |                           | 94.4   |           | %         |       | 50-140 | 15-APR-20 |
| Benzo(k)fluoranthene                                     |        |                           | 111.6  |           | %         |       | 50-140 | 15-APR-20 |
| Chrysene                                                 |        |                           | 112.9  |           | %         |       | 50-140 | 15-APR-20 |
| Dibenzo(ah)anthracene                                    |        |                           | 88.4   |           | %         |       | 50-140 | 15-APR-20 |
| Fluoranthene                                             |        |                           | 101.1  |           | %         |       | 50-140 | 15-APR-20 |
| Fluorene                                                 |        |                           | 100.3  |           | %         |       | 50-140 | 15-APR-20 |
| İ                                                        |        |                           |        |           |           |       |        |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                  | Matrix       | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------|--------------|-------------|---------|-----------|-------|-----|--------|-----------|
| PAH-511-WT                            | Soil         |             |         |           |       |     |        |           |
| Batch R5056710                        | )            |             |         |           |       |     |        |           |
| WG3307339-2 LCS                       | _            |             | 04.5    |           | 0/    |     |        |           |
| Indeno(1,2,3-cd)pyrene                | <del>2</del> |             | 91.5    |           | %     |     | 50-140 | 15-APR-20 |
| Naphthalene                           |              |             | 96.2    |           | %     |     | 50-140 | 15-APR-20 |
| Phenanthrene                          |              |             | 103.2   |           | %     |     | 50-140 | 15-APR-20 |
| Pyrene                                |              |             | 101.5   |           | %     |     | 50-140 | 15-APR-20 |
| WG3307339-1 MB<br>1-Methylnaphthalene |              |             | <0.030  |           | ug/g  |     | 0.03   | 15-APR-20 |
| 2-Methylnaphthalene                   |              |             | <0.030  |           | ug/g  |     | 0.03   | 15-APR-20 |
| Acenaphthene                          |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Acenaphthylene                        |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Anthracene                            |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Benzo(a)anthracene                    |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Benzo(a)pyrene                        |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Benzo(b)fluoranthene                  |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Benzo(g,h,i)perylene                  |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Benzo(k)fluoranthene                  |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Chrysene                              |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Dibenzo(ah)anthracene                 | Э            |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Fluoranthene                          |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Fluorene                              |              |             | < 0.050 |           | ug/g  |     | 0.05   | 15-APR-20 |
| Indeno(1,2,3-cd)pyrene                | Э            |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Naphthalene                           |              |             | <0.013  |           | ug/g  |     | 0.013  | 15-APR-20 |
| Phenanthrene                          |              |             | <0.046  |           | ug/g  |     | 0.046  | 15-APR-20 |
| Pyrene                                |              |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Surrogate: 2-Fluorobip                | henyl        |             | 111.6   |           | %     |     | 50-140 | 15-APR-20 |
| Surrogate: p-Terpheny                 | l d14        |             | 120.8   |           | %     |     | 50-140 | 15-APR-20 |
| WG3307339-4 MS                        |              | WG3307339-5 |         |           |       |     |        |           |
| 1-Methylnaphthalene                   |              |             | 94.7    |           | %     |     | 50-140 | 15-APR-20 |
| 2-Methylnaphthalene                   |              |             | 89.1    |           | %     |     | 50-140 | 15-APR-20 |
| Acenaphthene                          |              |             | 95.3    |           | %     |     | 50-140 | 15-APR-20 |
| Acenaphthylene                        |              |             | 97.2    |           | %     |     | 50-140 | 15-APR-20 |
| Anthracene                            |              |             | 93.7    |           | %     |     | 50-140 | 15-APR-20 |
| Benzo(a)anthracene                    |              |             | 94.2    |           | %     |     | 50-140 | 15-APR-20 |
| Benzo(a)pyrene                        |              |             | 93.1    |           | %     |     | 50-140 | 15-APR-20 |
| Benzo(b)fluoranthene                  |              |             | 87.3    |           | %     |     | 50-140 | 15-APR-20 |
|                                       |              |             |         |           |       |     |        |           |



Qualifier

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RPD

Limit

Analyzed

Units

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

Reference

Result

KITCHENER ON N2G 4Y9

Matrix

Contact: MICHAEL SHIRY

Test

|                                     | Walia | Reference                 | Nesuit | Qualifier | Units    | KFD  | Lillit  | Allalyzeu |
|-------------------------------------|-------|---------------------------|--------|-----------|----------|------|---------|-----------|
| PAH-511-WT                          | Soil  |                           |        |           |          |      |         |           |
| Batch R5056710                      |       |                           |        |           |          |      |         |           |
| WG3307339-4 MS                      |       | WG3307339-5               |        |           | 0.4      |      |         |           |
| Benzo(g,h,i)perylene                |       |                           | 90.9   |           | %        |      | 50-140  | 15-APR-20 |
| Benzo(k)fluoranthene                |       |                           | 100.4  |           | %        |      | 50-140  | 15-APR-20 |
| Chrysene                            |       |                           | 100.8  |           | %        |      | 50-140  | 15-APR-20 |
| Dibenzo(ah)anthracene               |       |                           | 91.6   |           | %        |      | 50-140  | 15-APR-20 |
| Fluoranthene                        |       |                           | 84.9   |           | %        |      | 50-140  | 15-APR-20 |
| Fluorene                            |       |                           | 93.8   |           | %        |      | 50-140  | 15-APR-20 |
| Indeno(1,2,3-cd)pyrene              |       |                           | 96.0   |           | %        |      | 50-140  | 15-APR-20 |
| Naphthalene                         |       |                           | 91.8   |           | %        |      | 50-140  | 15-APR-20 |
| Phenanthrene                        |       |                           | 88.9   |           | %        |      | 50-140  | 15-APR-20 |
| Pyrene                              |       |                           | 87.3   |           | %        |      | 50-140  | 15-APR-20 |
| PH-WT                               | Soil  |                           |        |           |          |      |         |           |
| Batch R5056536                      |       |                           |        |           |          |      |         |           |
| WG3306950-1 DUP                     |       | L2435780-3                |        |           |          |      |         |           |
| рН                                  |       | 7.86                      | 7.84   | J         | pH units | 0.02 | 0.3     | 14-APR-20 |
| WG3307490-1 LCS                     |       |                           | 7.00   |           |          |      |         |           |
| рН                                  |       |                           | 7.02   |           | pH units |      | 6.9-7.1 | 14-APR-20 |
| SAR-R511-WT                         | Soil  |                           |        |           |          |      |         |           |
| Batch R5057105                      |       |                           |        |           |          |      |         |           |
| <b>WG3307822-4 DUP</b> Calcium (Ca) |       | <b>WG3307822-3</b> < 0.50 | <0.50  | DDD MA    | mg/L     | N1/A | 00      | 45 ABB 00 |
| Sodium (Na)                         |       | 243                       |        | RPD-NA    |          | N/A  | 30      | 15-APR-20 |
|                                     |       |                           | 263    | 555 114   | mg/L     | 7.9  | 30      | 15-APR-20 |
| Magnesium (Mg)                      |       | <0.50                     | <0.50  | RPD-NA    | mg/L     | N/A  | 30      | 15-APR-20 |
| WG3307822-2 IRM<br>Calcium (Ca)     |       | WT SAR4                   | 106.1  |           | %        |      | 70-130  | 15-APR-20 |
| Sodium (Na)                         |       |                           | 92.3   |           | %        |      | 70-130  | 15-APR-20 |
| Magnesium (Mg)                      |       |                           | 102.6  |           | %        |      | 70-130  | 15-APR-20 |
| WG3307822-5 LCS                     |       |                           |        |           | -        |      | 70 100  | .5741120  |
| Calcium (Ca)                        |       |                           | 112.0  |           | %        |      | 80-120  | 15-APR-20 |
| Sodium (Na)                         |       |                           | 111.6  |           | %        |      | 80-120  | 15-APR-20 |
| Magnesium (Mg)                      |       |                           | 109.0  |           | %        |      | 80-120  | 15-APR-20 |
| WG3307822-1 MB                      |       |                           |        |           |          |      |         |           |
| Calcium (Ca)                        |       |                           | <0.50  |           | mg/L     |      | 0.5     | 15-APR-20 |
| Sodium (Na)                         |       |                           | <0.50  |           | mg/L     |      | 0.5     | 15-APR-20 |
| Magnesium (Mg)                      |       |                           | <0.50  |           | mg/L     |      | 0.5     | 15-APR-20 |
|                                     |       |                           |        |           |          |      |         |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                | Matrix   | Reference                | Result            | Qualifier | Units | RPD | Limit | Analyzed  |
|-------------------------------------|----------|--------------------------|-------------------|-----------|-------|-----|-------|-----------|
| VOC-511-HS-WT                       | Soil     |                          |                   |           |       |     |       |           |
| Batch R50567                        | 750      |                          |                   |           |       |     |       |           |
| WG3306504-4 DU 1,1,1,2-Tetrachloroe |          | <b>WG3306504</b> < 0.050 | <b>&lt;</b> 0.050 | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,1,2,2-Tetrachloroe                | thane    | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,1,1-Trichloroethan                | е        | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,1,2-Trichloroethane               | е        | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,1-Dichloroethane                  |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,1-Dichloroethylene                | :        | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,2-Dibromoethane                   |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,2-Dichlorobenzene                 | <b>)</b> | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,2-Dichloroethane                  |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,2-Dichloropropane                 |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,3-Dichlorobenzene                 | •        | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| 1,4-Dichlorobenzene                 | <b>;</b> | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Acetone                             |          | <0.50                    | <0.50             | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Benzene                             |          | <0.0068                  | <0.0068           | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Bromodichlorometha                  | ane      | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Bromoform                           |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Bromomethane                        |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Carbon tetrachloride                |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Chlorobenzene                       |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Chloroform                          |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| cis-1,2-Dichloroethyl               | ene      | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| cis-1,3-Dichloroprope               | ene      | <0.030                   | <0.030            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Dibromochlorometha                  | ane      | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Dichlorodifluorometh                | ane      | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Ethylbenzene                        |          | <0.018                   | <0.018            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| n-Hexane                            |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Methylene Chloride                  |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| MTBE                                |          | <0.050                   | <0.050            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| m+p-Xylenes                         |          | <0.030                   | <0.030            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Methyl Ethyl Ketone                 |          | <0.50                    | <0.50             | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Methyl Isobutyl Ketor               | ne       | <0.50                    | <0.50             | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| o-Xylene                            |          | <0.020                   | <0.020            | RPD-NA    | ug/g  | N/A | 40    | 15-APR-20 |
| Styrene                             |          | <0.050                   | <0.050            |           | ug/g  |     |       | 15-APR-20 |
|                                     |          |                          |                   |           |       |     |       |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                      | Matrix | Reference   | Result  | Qualifier | Units     | RPD | Limit  | Analyzed  |
|-------------------------------------------|--------|-------------|---------|-----------|-----------|-----|--------|-----------|
| VOC-511-HS-WT                             | Soil   |             |         |           |           |     |        |           |
| Batch R505675                             | 0      |             |         |           |           |     |        |           |
| WG3306504-4 DUP                           |        | WG3306504-3 |         |           | ,         |     |        |           |
| Styrene                                   |        | <0.050      | <0.050  | RPD-NA    | ug/g<br>, | N/A | 40     | 15-APR-20 |
| Tetrachloroethylene                       |        | <0.050      | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 15-APR-20 |
| Toluene                                   |        | <0.080      | <0.080  | RPD-NA    | ug/g      | N/A | 40     | 15-APR-20 |
| trans-1,2-Dichloroethy                    |        | <0.050      | <0.050  | RPD-NA    | ug/g      | N/A | 40     | 15-APR-20 |
| trans-1,3-Dichloroprop                    | pene   | <0.030      | <0.030  | RPD-NA    | ug/g      | N/A | 40     | 15-APR-20 |
| Trichloroethylene                         |        | <0.010      | <0.010  | RPD-NA    | ug/g      | N/A | 40     | 15-APR-20 |
| Trichlorofluoromethan                     | е      | <0.050      | < 0.050 | RPD-NA    | ug/g      | N/A | 40     | 15-APR-20 |
| Vinyl chloride                            |        | <0.020      | < 0.020 | RPD-NA    | ug/g      | N/A | 40     | 15-APR-20 |
| WG3306504-2 LCS<br>1,1,1,2-Tetrachloroeth |        |             | 100.4   |           | %         |     | 60-130 | 15-APR-20 |
| 1,1,2,2-Tetrachloroeth                    | ane    |             | 104.3   |           | %         |     | 60-130 | 15-APR-20 |
| 1,1,1-Trichloroethane                     |        |             | 91.7    |           | %         |     | 60-130 | 15-APR-20 |
| 1,1,2-Trichloroethane                     |        |             | 111.7   |           | %         |     | 60-130 | 15-APR-20 |
| 1,1-Dichloroethane                        |        |             | 96.8    |           | %         |     | 60-130 | 15-APR-20 |
| 1,1-Dichloroethylene                      |        |             | 85.0    |           | %         |     | 60-130 | 15-APR-20 |
| 1,2-Dibromoethane                         |        |             | 109.7   |           | %         |     | 70-130 | 15-APR-20 |
| 1,2-Dichlorobenzene                       |        |             | 99.0    |           | %         |     | 70-130 | 15-APR-20 |
| 1,2-Dichloroethane                        |        |             | 102.6   |           | %         |     | 60-130 | 15-APR-20 |
| 1,2-Dichloropropane                       |        |             | 99.1    |           | %         |     | 70-130 | 15-APR-20 |
| 1,3-Dichlorobenzene                       |        |             | 101.9   |           | %         |     | 70-130 | 15-APR-20 |
| 1,4-Dichlorobenzene                       |        |             | 103.3   |           | %         |     | 70-130 | 15-APR-20 |
| Acetone                                   |        |             | 125.9   |           | %         |     | 60-140 | 15-APR-20 |
| Benzene                                   |        |             | 96.0    |           | %         |     | 70-130 | 15-APR-20 |
| Bromodichloromethan                       | e      |             | 107.1   |           | %         |     | 50-140 | 15-APR-20 |
| Bromoform                                 |        |             | 114.6   |           | %         |     | 70-130 | 15-APR-20 |
| Bromomethane                              |        |             | 108.6   |           | %         |     | 50-140 | 15-APR-20 |
| Carbon tetrachloride                      |        |             | 90.2    |           | %         |     | 70-130 | 15-APR-20 |
| Chlorobenzene                             |        |             | 103.8   |           | %         |     | 70-130 | 15-APR-20 |
| Chloroform                                |        |             | 99.9    |           | %         |     | 70-130 | 15-APR-20 |
| cis-1,2-Dichloroethyler                   | ne     |             | 93.4    |           | %         |     | 70-130 | 15-APR-20 |
| cis-1,3-Dichloroproper                    | ne     |             | 102.0   |           | %         |     | 70-130 | 15-APR-20 |
| Dibromochloromethan                       | ie     |             | 100.3   |           | %         |     | 60-130 | 15-APR-20 |
| Dichlorodifluorometha                     | ne     |             | 48.2    | MES       | %         |     | 50-140 | 15-APR-20 |
|                                           |        |             |         |           |           |     |        |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                      | Matrix | Reference | Result  | Qualifier | Units | RPD | Limit            | Analyzed               |
|---------------------------|--------|-----------|---------|-----------|-------|-----|------------------|------------------------|
| VOC-511-HS-WT             | Soil   |           |         |           |       |     |                  |                        |
| Batch R5056750            |        |           |         |           |       |     |                  |                        |
| WG3306504-2 LCS           |        |           | 100.1   |           | %     |     | 70.400           |                        |
| Ethylbenzene<br>n-Hexane  |        |           | 81.4    |           | %     |     | 70-130           | 15-APR-20              |
| Methylene Chloride        |        |           | 97.3    |           | %     |     | 70-130           | 15-APR-20              |
| MTBE                      |        |           | 99.1    |           | %     |     | 70-130<br>70-130 | 15-APR-20              |
| m+p-Xylenes               |        |           | 100.5   |           | %     |     | 70-130           | 15-APR-20              |
| Methyl Ethyl Ketone       |        |           | 121.5   |           | %     |     | 60-140           | 15-APR-20              |
| Methyl Isobutyl Ketone    |        |           | 87.0    |           | %     |     |                  | 15-APR-20              |
| o-Xylene                  |        |           | 110.2   |           | %     |     | 60-140<br>70-130 | 15-APR-20<br>15-APR-20 |
| Styrene                   |        |           | 102.1   |           | %     |     | 70-130           | 15-APR-20              |
| Tetrachloroethylene       |        |           | 96.8    |           | %     |     | 60-130           | 15-APR-20              |
| Toluene                   |        |           | 97.5    |           | %     |     | 70-130           | 15-APR-20              |
| trans-1,2-Dichloroethylen | ie.    |           | 89.2    |           | %     |     | 60-130           | 15-APR-20              |
| trans-1,3-Dichloropropen  |        |           | 111.8   |           | %     |     | 70-130           | 15-APR-20              |
| Trichloroethylene         |        |           | 97.2    |           | %     |     | 60-130           | 15-APR-20              |
| Trichlorofluoromethane    |        |           | 77.6    |           | %     |     | 50-140           | 15-APR-20              |
| Vinyl chloride            |        |           | 84.2    |           | %     |     | 60-140           | 15-APR-20              |
| WG3306504-1 MB            |        |           |         |           |       |     | 00               | 10 / 11 12 20          |
| 1,1,1,2-Tetrachloroethan  | е      |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,1,2,2-Tetrachloroethan  | е      |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,1,1-Trichloroethane     |        |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,1,2-Trichloroethane     |        |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,1-Dichloroethane        |        |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,1-Dichloroethylene      |        |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,2-Dibromoethane         |        |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,2-Dichlorobenzene       |        |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,2-Dichloroethane        |        |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,2-Dichloropropane       |        |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,3-Dichlorobenzene       |        |           | < 0.050 |           | ug/g  |     | 0.05             | 15-APR-20              |
| 1,4-Dichlorobenzene       |        |           | <0.050  |           | ug/g  |     | 0.05             | 15-APR-20              |
| Acetone                   |        |           | <0.50   |           | ug/g  |     | 0.5              | 15-APR-20              |
| Benzene                   |        |           | <0.0068 |           | ug/g  |     | 0.0068           | 15-APR-20              |
| Bromodichloromethane      |        |           | <0.050  |           | ug/g  |     | 0.05             | 15-APR-20              |
| Bromoform                 |        |           | <0.050  |           | ug/g  |     | 0.05             | 15-APR-20              |
| Bromomethane              |        |           | <0.050  |           | ug/g  |     | 0.05             | 15-APR-20              |
|                           |        |           |         |           |       |     |                  |                        |



Workorder: L2436005 Report Date: 20-APR-20 Page 12 of 14

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                       | Matrix  | Reference   | Result  | Qualifier | Units | RPD | Limit  | Analyzed  |
|----------------------------|---------|-------------|---------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT              | Soil    |             |         |           |       |     |        |           |
| Batch R5056750             |         |             |         |           |       |     |        |           |
| WG3306504-1 MB             |         |             |         |           |       |     | 0.05   |           |
| Carbon tetrachloride       |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Chlorobenzene              |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Chloroform                 |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| cis-1,2-Dichloroethylene   |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| cis-1,3-Dichloropropene    |         |             | <0.030  |           | ug/g  |     | 0.03   | 15-APR-20 |
| Dibromochloromethane       |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Dichlorodifluoromethane    |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Ethylbenzene               |         |             | <0.018  |           | ug/g  |     | 0.018  | 15-APR-20 |
| n-Hexane                   |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Methylene Chloride         |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| MTBE                       |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| m+p-Xylenes                |         |             | <0.030  |           | ug/g  |     | 0.03   | 15-APR-20 |
| Methyl Ethyl Ketone        |         |             | < 0.50  |           | ug/g  |     | 0.5    | 15-APR-20 |
| Methyl Isobutyl Ketone     |         |             | <0.50   |           | ug/g  |     | 0.5    | 15-APR-20 |
| o-Xylene                   |         |             | <0.020  |           | ug/g  |     | 0.02   | 15-APR-20 |
| Styrene                    |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Tetrachloroethylene        |         |             | <0.050  |           | ug/g  |     | 0.05   | 15-APR-20 |
| Toluene                    |         |             | <0.080  |           | ug/g  |     | 0.08   | 15-APR-20 |
| trans-1,2-Dichloroethylene | e       |             | < 0.050 |           | ug/g  |     | 0.05   | 15-APR-20 |
| trans-1,3-Dichloropropene  | )       |             | <0.030  |           | ug/g  |     | 0.03   | 15-APR-20 |
| Trichloroethylene          |         |             | <0.010  |           | ug/g  |     | 0.01   | 15-APR-20 |
| Trichlorofluoromethane     |         |             | < 0.050 |           | ug/g  |     | 0.05   | 15-APR-20 |
| Vinyl chloride             |         |             | <0.020  |           | ug/g  |     | 0.02   | 15-APR-20 |
| Surrogate: 1,4-Difluorober | nzene   |             | 108.8   |           | %     |     | 50-140 | 15-APR-20 |
| Surrogate: 4-Bromofluorol  | benzene |             | 106.3   |           | %     |     | 50-140 | 15-APR-20 |
| WG3306504-5 MS             |         | WG3306504-3 |         |           |       |     |        |           |
| 1,1,1,2-Tetrachloroethane  | •       |             | 97.5    |           | %     |     | 50-140 | 15-APR-20 |
| 1,1,2,2-Tetrachloroethane  | :       |             | 98.8    |           | %     |     | 50-140 | 15-APR-20 |
| 1,1,1-Trichloroethane      |         |             | 108.2   |           | %     |     | 50-140 | 15-APR-20 |
| 1,1,2-Trichloroethane      |         |             | 106.1   |           | %     |     | 50-140 | 15-APR-20 |
| 1,1-Dichloroethane         |         |             | 87.6    |           | %     |     | 50-140 | 15-APR-20 |
| 1,1-Dichloroethylene       |         |             | 102.4   |           | %     |     | 50-140 | 15-APR-20 |
| 1,2-Dibromoethane          |         |             | 99.7    |           | %     |     | 50-140 | 15-APR-20 |
| 1,2-Dichlorobenzene        |         |             | 100.8   |           | %     |     | 50-140 | 15-APR-20 |
|                            |         |             |         |           |       |     |        |           |



Workorder: L2436005 Report Date: 20-APR-20 Page 13 of 14

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                      | Matrix | Reference   | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------|--------|-------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT             | Soil   |             |        |           |       |     |        |           |
| Batch R5056750            |        |             |        |           |       |     |        |           |
| WG3306504-5 MS            |        | WG3306504-3 |        |           |       |     |        |           |
| 1,2-Dichloroethane        |        |             | 114.3  |           | %     |     | 50-140 | 15-APR-20 |
| 1,2-Dichloropropane       |        |             | 106.9  |           | %     |     | 50-140 | 15-APR-20 |
| 1,3-Dichlorobenzene       |        |             | 103.2  |           | %     |     | 50-140 | 15-APR-20 |
| 1,4-Dichlorobenzene       |        |             | 107.4  |           | %     |     | 50-140 | 15-APR-20 |
| Acetone                   |        |             | 131.3  |           | %     |     | 50-140 | 15-APR-20 |
| Benzene                   |        |             | 109.6  |           | %     |     | 50-140 | 15-APR-20 |
| Bromodichloromethane      |        |             | 119.0  |           | %     |     | 50-140 | 15-APR-20 |
| Bromoform                 |        |             | 104.6  |           | %     |     | 50-140 | 15-APR-20 |
| Bromomethane              |        |             | 127.2  |           | %     |     | 50-140 | 15-APR-20 |
| Carbon tetrachloride      |        |             | 108.8  |           | %     |     | 50-140 | 15-APR-20 |
| Chlorobenzene             |        |             | 103.0  |           | %     |     | 50-140 | 15-APR-20 |
| Chloroform                |        |             | 117.6  |           | %     |     | 50-140 | 15-APR-20 |
| cis-1,2-Dichloroethylene  |        |             | 102.5  |           | %     |     | 50-140 | 15-APR-20 |
| cis-1,3-Dichloropropene   |        |             | 97.2   |           | %     |     | 50-140 | 15-APR-20 |
| Dibromochloromethane      |        |             | 94.8   |           | %     |     | 50-140 | 15-APR-20 |
| Dichlorodifluoromethane   |        |             | 62.8   |           | %     |     | 50-140 | 15-APR-20 |
| Ethylbenzene              |        |             | 88.9   |           | %     |     | 50-140 | 15-APR-20 |
| n-Hexane                  |        |             | 96.4   |           | %     |     | 50-140 | 15-APR-20 |
| Methylene Chloride        |        |             | 116.1  |           | %     |     | 50-140 | 15-APR-20 |
| MTBE                      |        |             | 100.6  |           | %     |     | 50-140 | 15-APR-20 |
| m+p-Xylenes               |        |             | 94.9   |           | %     |     | 50-140 | 15-APR-20 |
| Methyl Ethyl Ketone       |        |             | 98.4   |           | %     |     | 50-140 | 15-APR-20 |
| Methyl Isobutyl Ketone    |        |             | 68.6   |           | %     |     | 50-140 | 15-APR-20 |
| o-Xylene                  |        |             | 94.7   |           | %     |     | 50-140 | 15-APR-20 |
| Styrene                   |        |             | 81.4   |           | %     |     | 50-140 | 15-APR-20 |
| Tetrachloroethylene       |        |             | 94.7   |           | %     |     | 50-140 | 15-APR-20 |
| Toluene                   |        |             | 88.8   |           | %     |     | 50-140 | 15-APR-20 |
| trans-1,2-Dichloroethyler | ne     |             | 104.4  |           | %     |     | 50-140 | 15-APR-20 |
| trans-1,3-Dichloroproper  | ne     |             | 85.5   |           | %     |     | 50-140 | 15-APR-20 |
| Trichloroethylene         |        |             | 105.8  |           | %     |     | 50-140 | 15-APR-20 |
| Trichlorofluoromethane    |        |             | 96.7   |           | %     |     | 50-140 | 15-APR-20 |
| Vinyl chloride            |        |             | 98.8   |           | %     |     | 50-140 | 15-APR-20 |
|                           |        |             |        |           |       |     |        | -         |

Report Date: 20-APR-20 Workorder: L2436005

CH2M HILL CANADA LIMITED Client: Page 14 of 14 CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

#### 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           |

#### **Sample Parameter Qualifier Definitions:**

LCSD Laboratory Control Sample Duplicate

| Qualifier | Description                                                                                                                                                                         |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| J         | Duplicate results and limits are expressed in terms of absolute difference.                                                                                                         |
| MES       | Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME). |
| 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.

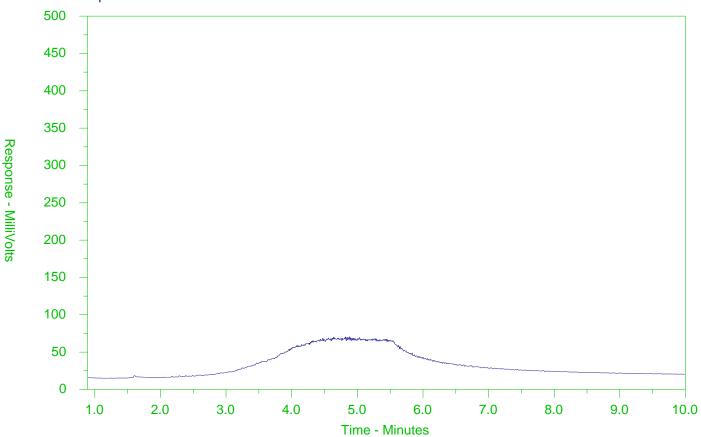
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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



ALS Sample ID: L2436005-1 Client Sample ID: MW113-2.5-4.5



| <b>←</b> -F2- | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor Oils/Lube Oils/Grease | - |
| •             | -Diesel/Jet | Fuels→           |                           |   |

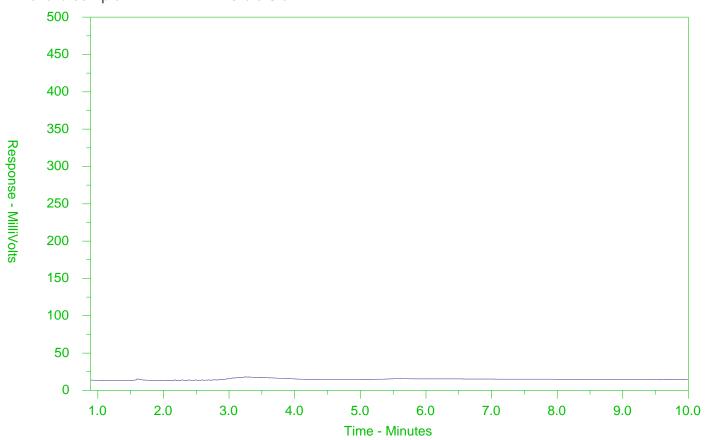
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2436005-2 Client Sample ID: MW113-6.5-8.5



| <b>←</b> -F2- | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor Oils/Lube Oils/Grease | - |
| •             | -Diesel/Jet | Fuels→           |                           |   |

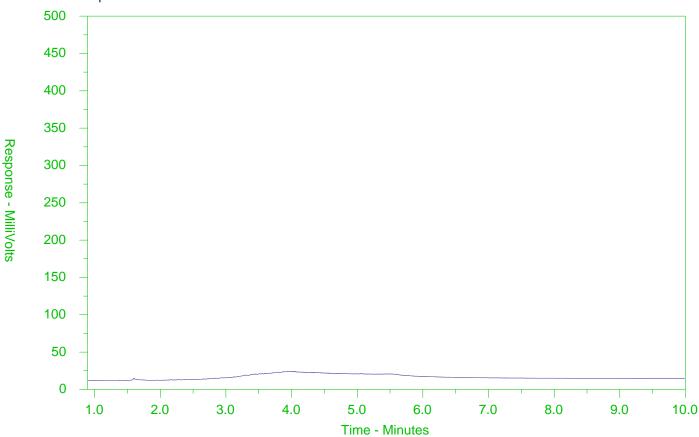
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2436005-5 Client Sample ID: BH207L-1-2



| <b>←</b> -F2- | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor Oils/Lube Oils/Grease | - |
| •             | -Diesel/Jet | Fuels→           |                           |   |

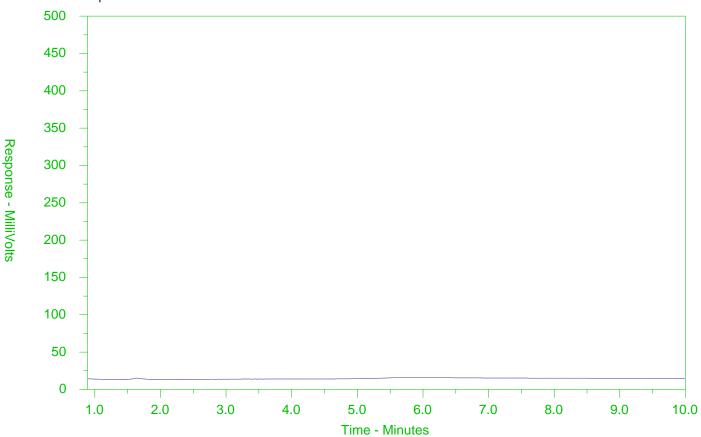
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2436005-6 Client Sample ID: BH207L-7.5-9.5



| <b>←</b> -F2- | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor 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.

# ALS Environmental

#### Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 688 9878



COC Number: 17 - 795995

SI

L2436005-COFC

www.alsglobal.com Report To Contact and company name below will appear on the trial report. Report Format / Distribution Contact your AM to confirm all E&P TATe (surcharges may apply) JHCOBS Company Select Report Format: POR EXCEL | EDD (DIGITAL) Regular (R) Standard TAT if reterred by 3 pm - business days - no surcharges apply JOH Gur Mike Shir Contact Quality Control (QC) Report with Report 🔀 YES | NO 4 day (P4-20%) 1 Business day [E - 100%] Phoce: Compare Results to Criteria on Report - provide details below at box checked. 3 day [P3-25%] Same Day, Weekend or Statutory holiday (E2 -200% Company address below will appear on the Inel month | BHAL | MAIL | FAX Select Distribution: 2 day [P2-50%] (Laboratory opening fees may apply) ] Street: 72 Victoria st South Sale 300 Email 1 or Fax Ed, forces @ Sneaths Date and Time Required for all E&P TATE: dd-mmm-yy hh;mm Kitchange City/Province: Email Inja Melanthe a Jacobs For tests that can not be performed according to the veryice level selected, you will be contacted. Postal Code: Analysis Request Involce To Same as Report To **74** YES Invoice Distribution Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F)P) below S Copy of Irvoice with Report YES I NO Select Invoice Distribution: EMAL. **JOH NO** CONTAINER Сопряну Email 1 or Fax Confact Ëmail 2 Project Information Oil and Gas Required Fields (client use) Q7738C ALS Account # / Quote #: AFE/Cast Centor CE251900 MakerManer Code Routing Code: PO / AFE: Requisitioner AMPLE SD: ō Location: ALS Conlact FUL I ALS Lat Work Order # (lab use only): 2436 005 AP NUMBER Sampler: J. Gowing Honson Sample Identification and/or Coordinates ALS Serople # Date Time (4b use only) Sample Type (This description will appear no the report) (dc-mmm-yy) (hh:mm) MW113-25-45 1050 ـانو≳ MW113-6.5-85 1160 MW113-10-12 × MW113-15-17 BHZOZI-1-Z BH 2076 - 75-95 τŧ ₶ TEIP BLANK Special instructions / Specify Criteria to add on report by clicking on the drop-down list below SAMPLE CONDITION AS RECEIVED (lab use only) Drinking Water (DW) Samples' (client use) (electronic COC only) 3 F Observations 먑 Are samples taken from a Regulated DW System? Νo ice Packs 🔲 ice Cubes 📮 Custody seal intact I YES MA NO Cooling Initiated Are eamples for human consumption/use? INITIAL COOLER TEMPERATURES IC FINAL COOLER TEMPERATURES C | | Yes | X/7 no SHIPMENT RELEASE (client use) INTIAL SHIPMENT RECEPTION (lob use only) BARBESEO DV Time: Received by: Received by (GO) WHITE - LABORATORY COPY YELLOW - CLIENT COPY



CH2M HILL CANADA LIMITED ATTN: MICHAEL SHIRY

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 15-APR-20

Report Date: 20-APR-20 11:41 (MT)

Version: FINAL

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2437013

Project P.O. #: NOT SUBMITTED

Job Reference: CE751900 C of C Numbers: 17-796250

Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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PAGE 2 of 11 Version: FINAL

| Sample Details/Parameters                                              | Result  | Qualifier* | D.L.   | Units    | Extracted | Analyzed  | Batch    |
|------------------------------------------------------------------------|---------|------------|--------|----------|-----------|-----------|----------|
| L2437013-1 MW113 Sampled By: CLIENT on 15-APR-20 @ 12:15 Matrix: WATER |         |            |        |          |           |           |          |
| Physical Tests                                                         |         |            |        |          |           |           |          |
| Conductivity                                                           | 14.2    |            | 0.0030 | mS/cm    |           | 16-APR-20 | R5057741 |
| pH                                                                     | 7.70    |            | 0.10   | pH units |           | 16-APR-20 | R5057741 |
| Anions and Nutrients                                                   |         |            |        |          |           |           |          |
| Chloride (CI)                                                          | 4470    | DLHC       | 10     | mg/L     |           | 16-APR-20 | R5058039 |
| Cyanides                                                               |         |            |        |          |           |           |          |
| Cyanide, Weak Acid Diss                                                | <2.0    |            | 2.0    | ug/L     |           | 16-APR-20 | R5057428 |
| Dissolved Metals                                                       |         |            |        |          |           |           |          |
| Dissolved Mercury Filtration Location                                  | FIELD   |            |        |          |           | 15-APR-20 | R5057037 |
| Dissolved Metals Filtration Location                                   | FIELD   |            |        |          |           | 16-APR-20 | R5057153 |
| Antimony (Sb)-Dissolved                                                | <1.0    | DLHC       | 1.0    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Arsenic (As)-Dissolved                                                 | <1.0    | DLHC       | 1.0    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Barium (Ba)-Dissolved                                                  | 278     | DLHC       | 1.0    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Beryllium (Be)-Dissolved                                               | <1.0    | DLHC       | 1.0    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Boron (B)-Dissolved                                                    | <100    | DLHC       | 100    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Cadmium (Cd)-Dissolved                                                 | 3.92    | DLHC       | 0.050  | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Chromium (Cr)-Dissolved                                                | <5.0    | DLHC       | 5.0    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Cobalt (Co)-Dissolved                                                  | <1.0    | DLHC       | 1.0    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Copper (Cu)-Dissolved                                                  | 2.7     | DLHC       | 2.0    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Lead (Pb)-Dissolved                                                    | <0.50   | DLHC       | 0.50   | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Mercury (Hg)-Dissolved                                                 | 0.0052  |            | 0.0050 | ug/L     | 15-APR-20 | 15-APR-20 | R5057100 |
| Molybdenum (Mo)-Dissolved                                              | 1.52    | DLHC       | 0.50   | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Nickel (Ni)-Dissolved                                                  | <5.0    | DLHC       | 5.0    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Selenium (Se)-Dissolved                                                | 1.20    | DLHC       | 0.50   | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Silver (Ag)-Dissolved                                                  | <0.50   | DLHC       | 0.50   | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Sodium (Na)-Dissolved                                                  | 2440000 | DLHC       | 5000   | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Thallium (TI)-Dissolved                                                | <0.10   | DLHC       | 0.10   | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Uranium (U)-Dissolved                                                  | 0.91    | DLHC       | 0.10   | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Vanadium (V)-Dissolved                                                 | <5.0    | DLHC       | 5.0    | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Zinc (Zn)-Dissolved                                                    | 11      | DLHC       | 10     | ug/L     | 16-APR-20 | 16-APR-20 | R5057638 |
| Speciated Metals                                                       |         |            |        |          |           |           |          |
| Chromium, Hexavalent                                                   | 4.95    |            | 0.50   | ug/L     |           | 16-APR-20 | R5057701 |
| Volatile Organic Compounds                                             |         |            |        |          |           |           |          |
| Acetone                                                                | <30     |            | 30     | ug/L     |           | 16-APR-20 | R5057198 |
| Benzene                                                                | <0.50   |            | 0.50   | ug/L     |           | 16-APR-20 | R5057198 |
| Bromodichloromethane                                                   | <2.0    |            | 2.0    | ug/L     |           | 16-APR-20 | R5057198 |
| Bromoform                                                              | <5.0    |            | 5.0    | ug/L     |           | 16-APR-20 | R5057198 |
| Bromomethane                                                           | <0.50   |            | 0.50   | ug/L     |           | 16-APR-20 | R5057198 |
| Carbon tetrachloride                                                   | <0.20   |            | 0.20   | ug/L     |           | 16-APR-20 | R5057198 |
| Chlorobenzene                                                          | <0.50   |            | 0.50   | ug/L     |           | 16-APR-20 | R5057198 |
| Dibromochloromethane                                                   | <2.0    |            | 2.0    | ug/L     |           | 16-APR-20 | R5057198 |
| Chloroform                                                             | 3.2     |            | 1.0    | ug/L     |           | 16-APR-20 | R5057198 |
| 1,2-Dibromoethane                                                      | <0.20   |            | 0.20   | ug/L     |           | 16-APR-20 | R5057198 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                              | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|------------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2437013-1 MW113 Sampled By: CLIENT on 15-APR-20 @ 12:15 Matrix: WATER |        |            |        |       |           |           |          |
| Volatile Organic Compounds                                             |        |            |        |       |           |           |          |
| 1,2-Dichlorobenzene                                                    | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,3-Dichlorobenzene                                                    | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,4-Dichlorobenzene                                                    | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Dichlorodifluoromethane                                                | <2.0   |            | 2.0    | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1-Dichloroethane                                                     | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dichloroethane                                                     | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1-Dichloroethylene                                                   | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| cis-1,2-Dichloroethylene                                               | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| trans-1,2-Dichloroethylene                                             | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Methylene Chloride                                                     | <5.0   |            | 5.0    | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dichloropropane                                                    | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| cis-1,3-Dichloropropene                                                | <0.30  |            | 0.30   | ug/L  |           | 16-APR-20 | R5057198 |
| trans-1,3-Dichloropropene                                              | <0.30  |            | 0.30   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,3-Dichloropropene (cis & trans)                                      | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 |          |
| Ethylbenzene                                                           | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| n-Hexane                                                               | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Methyl Ethyl Ketone                                                    | <20    |            | 20     | ug/L  |           | 16-APR-20 | R5057198 |
| Methyl Isobutyl Ketone                                                 | <20    |            | 20     | ug/L  |           | 16-APR-20 | R5057198 |
| MTBE                                                                   | <2.0   |            | 2.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Styrene                                                                | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,1,2-Tetrachloroethane                                              | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,2,2-Tetrachloroethane                                              | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Tetrachloroethylene                                                    | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Toluene                                                                | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,1-Trichloroethane                                                  | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,2-Trichloroethane                                                  | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Trichloroethylene                                                      | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Trichlorofluoromethane                                                 | <5.0   |            | 5.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Vinyl chloride                                                         | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| o-Xylene                                                               | <0.30  |            | 0.30   | ug/L  |           | 16-APR-20 | R5057198 |
| m+p-Xylenes                                                            | <0.40  |            | 0.40   | ug/L  |           | 16-APR-20 | R5057198 |
| Xylenes (Total)                                                        | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 |          |
| Surrogate: 4-Bromofluorobenzene                                        | 94.0   |            | 70-130 | %     |           | 16-APR-20 | R5057198 |
| Surrogate: 1,4-Difluorobenzene                                         | 100.9  |            | 70-130 | %     |           | 16-APR-20 | R5057198 |
| Hydrocarbons                                                           |        |            |        |       |           |           |          |
| F1 (C6-C10)                                                            | <25    |            | 25     | ug/L  |           | 16-APR-20 | R5057198 |
| F1-BTEX                                                                | <25    |            | 25     | ug/L  |           | 16-APR-20 |          |
| F2 (C10-C16)                                                           | <100   |            | 100    | ug/L  | 15-APR-20 | 16-APR-20 | R5057219 |
| F2-Naphth                                                              | <100   |            | 100    | ug/L  |           | 16-APR-20 |          |
| F3 (C16-C34)                                                           | <250   |            | 250    | ug/L  | 15-APR-20 | 16-APR-20 | R5057219 |
| F3-PAH                                                                 | <250   |            | 250    | ug/L  |           | 16-APR-20 |          |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                              | Result | Qualifier* | D.L.   | Units    | Extracted | Analyzed  | Batch    |
|------------------------------------------------------------------------|--------|------------|--------|----------|-----------|-----------|----------|
| L2437013-1 MW113 Sampled By: CLIENT on 15-APR-20 @ 12:15 Matrix: WATER |        |            |        |          |           |           |          |
| Hydrocarbons                                                           |        |            |        |          |           |           |          |
| F4 (C34-C50)                                                           | <250   |            | 250    | ug/L     | 15-APR-20 | 16-APR-20 | R5057219 |
| Total Hydrocarbons (C6-C50)                                            | <370   |            | 370    | ug/L     |           | 16-APR-20 |          |
| Chrom. to baseline at nC50                                             | YES    |            |        |          | 15-APR-20 | 16-APR-20 | R5057219 |
| Surrogate: 2-Bromobenzotrifluoride                                     | 97.0   |            | 60-140 | %        | 15-APR-20 | 16-APR-20 | R5057219 |
| Surrogate: 3,4-Dichlorotoluene Polycyclic Aromatic Hydrocarbons        | 78.7   |            | 60-140 | %        |           | 16-APR-20 | R5057198 |
| Acenaphthene                                                           | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Acenaphthylene                                                         | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Anthracene                                                             | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(a)anthracene                                                     | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(a)pyrene                                                         | <0.010 |            | 0.010  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(b)fluoranthene                                                   | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(g,h,i)perylene                                                   | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(k)fluoranthene                                                   | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Chrysene                                                               | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Dibenzo(ah)anthracene                                                  | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Fluoranthene                                                           | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Fluorene                                                               | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Indeno(1,2,3-cd)pyrene                                                 | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| 1+2-Methylnaphthalenes                                                 | <0.028 |            | 0.028  | ug/L     |           | 16-APR-20 |          |
| 1-Methylnaphthalene                                                    | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| 2-Methylnaphthalene                                                    | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Naphthalene                                                            | <0.050 |            | 0.050  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Phenanthrene                                                           | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Pyrene                                                                 | <0.020 |            | 0.020  | ug/L     | 15-APR-20 | 16-APR-20 | R5057280 |
| Surrogate: d10-Acenaphthene                                            | 103.9  |            | 60-140 | %        | 15-APR-20 | 16-APR-20 | R5057280 |
| Surrogate: d12-Chrysene                                                | 101.8  |            | 60-140 | %        | 15-APR-20 | 16-APR-20 | R5057280 |
| Surrogate: d8-Naphthalene                                              | 104.1  |            | 60-140 | %        | 15-APR-20 | 16-APR-20 | R5057280 |
| Surrogate: d10-Phenanthrene                                            | 109.2  |            | 60-140 | %        | 15-APR-20 | 16-APR-20 | R5057280 |
| L2437013-2 DUP1 Sampled By: CLIENT on 15-APR-20 @ 12:15 Matrix: WATER  |        |            |        |          |           |           |          |
| Physical Tests                                                         |        |            |        |          |           |           |          |
| Conductivity                                                           | 13.9   |            | 0.0030 | mS/cm    |           | 16-APR-20 | R5057741 |
| рН                                                                     | 7.69   |            | 0.10   | pH units |           | 16-APR-20 | R5057741 |
| Anions and Nutrients                                                   |        |            |        |          |           |           |          |
| Chloride (CI)  Cyanides                                                | 8330   | DLHC       | 10     | mg/L     |           | 16-APR-20 | R5058039 |
| Cyanide, Weak Acid Diss                                                | <2.0   |            | 2.0    | ug/L     |           | 16-APR-20 | R5057428 |
| Dissolved Metals                                                       |        |            |        |          |           |           |          |
| Dissolved Mercury Filtration Location                                  | FIELD  |            |        |          |           | 15-APR-20 | R5057037 |
| Dissolved Metals Filtration Location                                   | FIELD  |            |        |          |           | 16-APR-20 | R5057153 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                             | Result  | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------|---------|------------|--------|-------|-----------|-----------|----------|
| L2437013-2 DUP1 Sampled By: CLIENT on 15-APR-20 @ 12:15 Matrix: WATER |         |            |        |       |           |           |          |
| Dissolved Metals                                                      |         |            |        |       |           |           |          |
| Antimony (Sb)-Dissolved                                               | <1.0    | DLHC       | 1.0    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Arsenic (As)-Dissolved                                                | <1.0    | DLHC       | 1.0    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Barium (Ba)-Dissolved                                                 | 274     | DLHC       | 1.0    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Beryllium (Be)-Dissolved                                              | <1.0    | DLHC       | 1.0    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Boron (B)-Dissolved                                                   | <100    | DLHC       | 100    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Cadmium (Cd)-Dissolved                                                | 3.93    | DLHC       | 0.050  | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Chromium (Cr)-Dissolved                                               | <5.0    | DLHC       | 5.0    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Cobalt (Co)-Dissolved                                                 | <1.0    | DLHC       | 1.0    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Copper (Cu)-Dissolved                                                 | 2.6     | DLHC       | 2.0    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Lead (Pb)-Dissolved                                                   | <0.50   | DLHC       | 0.50   | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Mercury (Hg)-Dissolved                                                | <0.0050 |            | 0.0050 | ug/L  | 15-APR-20 | 15-APR-20 | R5057100 |
| Molybdenum (Mo)-Dissolved                                             | 1.50    | DLHC       | 0.50   | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Nickel (Ni)-Dissolved                                                 | <5.0    | DLHC       | 5.0    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Selenium (Se)-Dissolved                                               | 1.24    | DLHC       | 0.50   | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Silver (Ag)-Dissolved                                                 | <0.50   | DLHC       | 0.50   | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Sodium (Na)-Dissolved                                                 | 2390000 | DLHC       | 5000   | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Thallium (TI)-Dissolved                                               | <0.10   | DLHC       | 0.10   | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Uranium (U)-Dissolved                                                 | 0.90    | DLHC       | 0.10   | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Vanadium (V)-Dissolved                                                | <5.0    | DLHC       | 5.0    | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Zinc (Zn)-Dissolved                                                   | 11      | DLHC       | 10     | ug/L  | 16-APR-20 | 16-APR-20 | R5057638 |
| Speciated Metals                                                      |         |            |        |       |           |           |          |
| Chromium, Hexavalent                                                  | 4.89    |            | 0.50   | ug/L  |           | 16-APR-20 | R5057701 |
| Volatile Organic Compounds                                            |         |            |        |       |           |           |          |
| Acetone                                                               | <30     |            | 30     | ug/L  |           | 16-APR-20 | R5057198 |
| Benzene                                                               | <0.50   |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Bromodichloromethane                                                  | <2.0    |            | 2.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Bromoform                                                             | <5.0    |            | 5.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Bromomethane                                                          | <0.50   |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Carbon tetrachloride                                                  | <0.20   |            | 0.20   | ug/L  |           | 16-APR-20 | R5057198 |
| Chlorobenzene                                                         | <0.50   |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Dibromochloromethane                                                  | <2.0    |            | 2.0    | ug/L  |           |           | R5057198 |
| Chloroform                                                            | 3.2     |            | 1.0    | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dibromoethane                                                     | <0.20   |            | 0.20   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dichlorobenzene                                                   | <0.50   |            | 0.50   | ug/L  |           |           | R5057198 |
| 1,3-Dichlorobenzene                                                   | <0.50   |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,4-Dichlorobenzene                                                   | <0.50   |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Dichlorodifluoromethane                                               | <2.0    |            | 2.0    | ug/L  |           |           | R5057198 |
| 1,1-Dichloroethane                                                    | <0.50   |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dichloroethane                                                    | <0.50   |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1-Dichloroethylene                                                  | <0.50   |            | 0.50   | ug/L  |           |           | R5057198 |
| cis-1,2-Dichloroethylene                                              | <0.50   |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
|                                                                       |         |            |        |       |           |           |          |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                             | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2437013-2 DUP1 Sampled By: CLIENT on 15-APR-20 @ 12:15 Matrix: WATER |        |            |        |       |           |           |          |
| Volatile Organic Compounds                                            |        |            |        |       |           |           |          |
| trans-1,2-Dichloroethylene                                            | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Methylene Chloride                                                    | <5.0   |            | 5.0    | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dichloropropane                                                   | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| cis-1,3-Dichloropropene                                               | <0.30  |            | 0.30   | ug/L  |           | 16-APR-20 | R5057198 |
| trans-1,3-Dichloropropene                                             | <0.30  |            | 0.30   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,3-Dichloropropene (cis & trans)                                     | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 |          |
| Ethylbenzene                                                          | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| n-Hexane                                                              | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Methyl Ethyl Ketone                                                   | <20    |            | 20     | ug/L  |           | 16-APR-20 | R5057198 |
| Methyl Isobutyl Ketone                                                | <20    |            | 20     | ug/L  |           | 16-APR-20 | R5057198 |
| MTBE                                                                  | <2.0   |            | 2.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Styrene                                                               | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,1,2-Tetrachloroethane                                             | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,2,2-Tetrachloroethane                                             | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Tetrachloroethylene                                                   | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Toluene                                                               | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,1-Trichloroethane                                                 | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,2-Trichloroethane                                                 | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Trichloroethylene                                                     | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Trichlorofluoromethane                                                | <5.0   |            | 5.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Vinyl chloride                                                        | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| o-Xylene                                                              | <0.30  |            | 0.30   | ug/L  |           | 16-APR-20 | R5057198 |
| m+p-Xylenes                                                           | <0.40  |            | 0.40   | ug/L  |           | 16-APR-20 | R5057198 |
| Xylenes (Total)                                                       | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 |          |
| Surrogate: 4-Bromofluorobenzene                                       | 93.8   |            | 70-130 | %     |           | 16-APR-20 | R5057198 |
| Surrogate: 1,4-Difluorobenzene                                        | 100.6  |            | 70-130 | %     |           | 16-APR-20 | R5057198 |
| Hydrocarbons                                                          |        |            |        |       |           |           |          |
| F1 (C6-C10)                                                           | <25    |            | 25     | ug/L  |           | 16-APR-20 | R5057198 |
| F1-BTEX                                                               | <25    |            | 25     | ug/L  |           | 16-APR-20 |          |
| F2 (C10-C16)                                                          | <100   |            | 100    | ug/L  | 15-APR-20 | 16-APR-20 | R5057219 |
| F2-Naphth                                                             | <100   |            | 100    | ug/L  |           | 16-APR-20 |          |
| F3 (C16-C34)                                                          | <250   |            | 250    | ug/L  | 15-APR-20 | 16-APR-20 | R5057219 |
| F3-PAH                                                                | <250   |            | 250    | ug/L  |           | 16-APR-20 |          |
| F4 (C34-C50)                                                          | <250   |            | 250    | ug/L  | 15-APR-20 | 16-APR-20 | R5057219 |
| Total Hydrocarbons (C6-C50)                                           | <370   |            | 370    | ug/L  |           | 16-APR-20 |          |
| Chrom. to baseline at nC50                                            | YES    |            |        |       | 15-APR-20 | 16-APR-20 | R5057219 |
| Surrogate: 2-Bromobenzotrifluoride                                    | 103.7  |            | 60-140 | %     | 15-APR-20 | 16-APR-20 | R5057219 |
| Surrogate: 3,4-Dichlorotoluene                                        | 73.9   |            | 60-140 | %     |           | 16-APR-20 | R5057198 |
| Polycyclic Aromatic Hydrocarbons                                      |        |            |        |       |           |           |          |
| Acenaphthene                                                          | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Acenaphthylene                                                        | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                           | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|---------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2437013-2 DUP1 Sampled By: CLIENT on 15-APR-20 @ 12:15 WATER       |        |            |        |       |           |           |          |
| Polycyclic Aromatic Hydrocarbons                                    |        |            |        |       |           |           |          |
| Anthracene                                                          | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(a)anthracene                                                  | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(a)pyrene                                                      | <0.010 |            | 0.010  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(b)fluoranthene                                                | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(g,h,i)perylene                                                | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Benzo(k)fluoranthene                                                | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Chrysene                                                            | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Dibenzo(ah)anthracene                                               | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Fluoranthene                                                        | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Fluorene                                                            | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Indeno(1,2,3-cd)pyrene                                              | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| 1+2-Methylnaphthalenes                                              | <0.028 |            | 0.028  | ug/L  |           | 16-APR-20 |          |
| 1-Methylnaphthalene                                                 | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| 2-Methylnaphthalene                                                 | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Naphthalene                                                         | <0.050 |            | 0.050  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Phenanthrene                                                        | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Pyrene                                                              | <0.020 |            | 0.020  | ug/L  | 15-APR-20 | 16-APR-20 | R5057280 |
| Surrogate: d10-Acenaphthene                                         | 104.5  |            | 60-140 | %     | 15-APR-20 | 16-APR-20 | R5057280 |
| Surrogate: d12-Chrysene                                             | 103.2  |            | 60-140 | %     | 15-APR-20 | 16-APR-20 | R5057280 |
| Surrogate: d8-Naphthalene                                           | 98.8   |            | 60-140 | %     | 15-APR-20 | 16-APR-20 | R5057280 |
| Surrogate: d10-Phenanthrene                                         | 110.4  |            | 60-140 | %     | 15-APR-20 | 16-APR-20 | R5057280 |
| L2437013-3 TRIP BLANK Sampled By: CLIENT on 15-APR-20 @ 12:15 WATER |        |            |        |       |           |           |          |
| Volatile Organic Compounds                                          |        |            |        |       |           |           |          |
| Acetone                                                             | <30    |            | 30     | ug/L  |           | 16-APR-20 | R5057198 |
| Benzene                                                             | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Bromodichloromethane                                                | <2.0   |            | 2.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Bromoform                                                           | <5.0   |            | 5.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Bromomethane                                                        | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Carbon tetrachloride                                                | <0.20  |            | 0.20   | ug/L  |           | 16-APR-20 | R5057198 |
| Chlorobenzene                                                       | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Dibromochloromethane                                                | <2.0   |            | 2.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Chloroform                                                          | <1.0   |            | 1.0    | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dibromoethane                                                   | <0.20  |            | 0.20   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dichlorobenzene                                                 | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,3-Dichlorobenzene                                                 | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,4-Dichlorobenzene                                                 | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Dichlorodifluoromethane                                             | <2.0   |            | 2.0    | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1-Dichloroethane                                                  | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dichloroethane                                                  | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1-Dichloroethylene                                                | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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| Sample Details/Parameters                                                   | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2437013-3 TRIP BLANK Sampled By: CLIENT on 15-APR-20 @ 12:15 Matrix: WATER |        |            |        |       |           |           |          |
| Volatile Organic Compounds                                                  |        |            |        |       |           |           |          |
| cis-1,2-Dichloroethylene                                                    | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| trans-1,2-Dichloroethylene                                                  | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Methylene Chloride                                                          | <5.0   |            | 5.0    | ug/L  |           | 16-APR-20 | R5057198 |
| 1,2-Dichloropropane                                                         | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| cis-1,3-Dichloropropene                                                     | <0.30  |            | 0.30   | ug/L  |           | 16-APR-20 | R5057198 |
| trans-1,3-Dichloropropene                                                   | <0.30  |            | 0.30   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,3-Dichloropropene (cis & trans)                                           | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 |          |
| Ethylbenzene                                                                | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| n-Hexane                                                                    | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Methyl Ethyl Ketone                                                         | <20    |            | 20     | ug/L  |           | 16-APR-20 | R5057198 |
| Methyl Isobutyl Ketone                                                      | <20    |            | 20     | ug/L  |           | 16-APR-20 | R5057198 |
| МТВЕ                                                                        | <2.0   |            | 2.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Styrene                                                                     | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,1,2-Tetrachloroethane                                                   | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,2,2-Tetrachloroethane                                                   | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Tetrachloroethylene                                                         | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Toluene                                                                     | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,1-Trichloroethane                                                       | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| 1,1,2-Trichloroethane                                                       | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Trichloroethylene                                                           | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| Trichlorofluoromethane                                                      | <5.0   |            | 5.0    | ug/L  |           | 16-APR-20 | R5057198 |
| Vinyl chloride                                                              | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 | R5057198 |
| o-Xylene                                                                    | <0.30  |            | 0.30   | ug/L  |           | 16-APR-20 | R5057198 |
| m+p-Xylenes                                                                 | <0.40  |            | 0.40   | ug/L  |           | 16-APR-20 | R5057198 |
| Xylenes (Total)                                                             | <0.50  |            | 0.50   | ug/L  |           | 16-APR-20 |          |
| Surrogate: 4-Bromofluorobenzene                                             | 95.0   |            | 70-130 | %     |           | 16-APR-20 | R5057198 |
| Surrogate: 1,4-Difluorobenzene                                              | 100.4  |            | 70-130 | %     |           | 16-APR-20 | R5057198 |
| Hydrocarbons                                                                |        |            |        |       |           |           |          |
| F1 (C6-C10)                                                                 | <25    |            | 25     | ug/L  |           | 16-APR-20 | R5057198 |
| F1-BTEX                                                                     | <25    |            | 25     | ug/L  |           | 16-APR-20 |          |
| Surrogate: 3,4-Dichlorotoluene                                              | 89.6   |            | 60-140 | %     |           | 16-APR-20 | R5057198 |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |
|                                                                             |        |            |        |       |           |           |          |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

CE751900

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#### QC Samples with Qualifiers & Comments:

| QC Type Description | Parameter             | Qualifier | Applies to Sample Number(s) |
|---------------------|-----------------------|-----------|-----------------------------|
| Matrix Spike        | Barium (Ba)-Dissolved | MS-B      | L2437013-1, -2              |
| Matrix Spike        | Boron (B)-Dissolved   | MS-B      | L2437013-1, -2              |
| Matrix Spike        | Sodium (Na)-Dissolved | MS-B      | L2437013-1, -2              |
| Matrix Spike        | Uranium (U)-Dissolved | MS-B      | L2437013-1, -2              |

**Reference Information** 

#### Sample Parameter Qualifier key listed:

| Qualifier | Description                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------|
| DLHC      | Detection Limit Raised: Dilution required due to high concentration of test analyte(s).            |
| MS-B      | Matrix Spike recovery could not be accurately calculated due to high analyte background in sample. |
| -         |                                                                                                    |

#### **Test Method References:**

| ALS Test Code Matrix Test Description |       | Test Description | Method Reference** |
|---------------------------------------|-------|------------------|--------------------|
| 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).

CR-CR6-IC-R511-WT Water Hex Chrom-O.Reg 153/04 (July 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).

EC-R511-WT Water Conductivity-O.Reg 153/04 (July APHA 2510 B 2011)

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).

EC-SCREEN-WT Water Conductivity Screen (Internal Use APHA 2510 Only)

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

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

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.

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#### **Reference Information**

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), 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), 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

EPA 1631E (mod)

(ug/L)

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

EPA 200.8

(ug/L)

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 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).

PH-WT

Water

рΗ

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

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

SW846 8260

(July 2011)

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), 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-

Water

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

Sum of Xylene Isomer

Concentrations

CALCULATION

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

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### **Reference Information**

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 |
| Ohalis at Ossata da Nossahasia |                                               |

#### Chain of Custody Numbers:

17-796250

#### **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.



Workorder: L2437013 Report Date: 20-APR-20 Page 1 of 12

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                |                        | Matrix | Reference                    | Result           | Qualifier | Units | RPD  | Limit  | Analyzed  |
|-------------------------------------|------------------------|--------|------------------------------|------------------|-----------|-------|------|--------|-----------|
| CL-IC-N-WT                          |                        | Water  |                              |                  |           |       |      |        |           |
| Batch R50                           | 058039                 |        |                              |                  |           |       |      |        |           |
| <b>WG3308940-4</b><br>Chloride (Cl) | DUP                    |        | <b>L2436689-1</b><br>14.1    | 14.1             |           | mg/L  | 0.1  | 20     | 16-APR-20 |
| <b>WG3308940-8</b><br>Chloride (CI) | DUP                    |        | <b>WG3308940-1</b> 0<br>64.1 | <b>0</b><br>64.1 |           | mg/L  | 0.1  | 20     | 16-APR-20 |
| <b>WG3308940-2</b><br>Chloride (Cl) | LCS                    |        |                              | 104.1            |           | %     |      | 90-110 | 16-APR-20 |
| <b>WG3308940-7</b><br>Chloride (Cl) | LCS                    |        |                              | 102.0            |           | %     |      | 90-110 | 16-APR-20 |
| <b>WG3308940-1</b><br>Chloride (Cl) | МВ                     |        |                              | <0.50            |           | mg/L  |      | 0.5    | 16-APR-20 |
| <b>WG3308940-6</b><br>Chloride (Cl) | МВ                     |        |                              | <0.50            |           | mg/L  |      | 0.5    | 16-APR-20 |
| <b>WG3308940-5</b><br>Chloride (Cl) | MS                     |        | L2436689-1                   | 96.9             |           | %     |      | 75-125 | 16-APR-20 |
| <b>WG3308940-9</b><br>Chloride (Cl) | MS                     |        | WG3308940-10                 | <b>0</b><br>95.9 |           | %     |      | 75-125 | 16-APR-20 |
| CN-WAD-R511-WT                      |                        | Water  |                              |                  |           |       |      |        |           |
| Batch R50                           | 057428                 |        |                              |                  |           |       |      |        |           |
| WG3308540-5<br>Cyanide, Weak        | <b>DUP</b><br>Acid Dis | S      | <b>L2437013-1</b> <2.0       | <2.0             | RPD-NA    | ug/L  | N/A  | 20     | 16-APR-20 |
| <b>WG3308540-2</b><br>Cyanide, Weak | LCS<br>Acid Dis        | S      |                              | 97.6             |           | %     |      | 80-120 | 16-APR-20 |
| <b>WG3308540-1</b><br>Cyanide, Weak | <b>MB</b><br>Acid Dis  | S      |                              | <2.0             |           | ug/L  |      | 2      | 16-APR-20 |
| <b>WG3308540-6</b><br>Cyanide, Weak | MS<br>Acid Dis         | S      | L2437013-1                   | 96.1             |           | %     |      | 75-125 | 16-APR-20 |
| CR-CR6-IC-R511-W                    | /Т                     | Water  |                              |                  |           |       |      |        |           |
| WG3308695-4                         | 057701<br>DUP          |        | WG3308695-3                  | <b>~</b> 0.50    | DDD NA    | ug/l  | NI/A | 20     | 40 ADD 00 |
| Chromium, Hexa                      |                        |        | <0.50                        | <0.50            | RPD-NA    | ug/L  | N/A  | 20     | 16-APR-20 |
| WG3308695-2<br>Chromium, Hexa       | avalent                |        |                              | 101.2            |           | %     |      | 80-120 | 16-APR-20 |
| WG3308695-1<br>Chromium, Hexa       | MB<br>avalent          |        |                              | <0.50            |           | ug/L  |      | 0.5    | 16-APR-20 |
| WG3308695-5<br>Chromium, Hexa       | MS<br>avalent          |        | WG3308695-3                  | 97.0             |           | %     |      | 70-130 | 16-APR-20 |
| EC-R511-WT                          |                        | Water  |                              |                  |           |       |      |        |           |



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CH2M HILL CANADA LIMITED Client:

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

| Test                                  |               | Matrix       | Reference                  | Result  | Qualifier | Units | RPD | Limit  | Analyzed      |
|---------------------------------------|---------------|--------------|----------------------------|---------|-----------|-------|-----|--------|---------------|
| EC-R511-WT                            |               | Water        |                            |         |           |       |     |        |               |
| Batch R5                              | 057741        |              |                            |         |           |       |     |        |               |
| WG3308753-4<br>Conductivity           | DUP           |              | <b>WG3308753-3</b><br>4.35 | 4.36    |           | mS/cm | 0.2 | 10     | 16-APR-20     |
| WG3308753-2<br>Conductivity           | LCS           |              |                            | 108.2   |           | %     |     | 90-110 | 16-APR-20     |
| WG3308753-1<br>Conductivity           | MB            |              |                            | <0.0030 |           | mS/cm |     | 0.003  | 16-APR-20     |
| F1-HS-511-WT                          |               | Water        |                            |         |           |       |     |        |               |
| Batch R5                              | 057198        |              |                            |         |           |       |     |        |               |
| <b>WG3305551-4</b><br>F1 (C6-C10)     | DUP           |              | <b>WG3305551-3</b> <25     | <25     | RPD-NA    | ug/L  | N/A | 30     | 16-APR-20     |
| <b>WG3305551-1</b><br>F1 (C6-C10)     | LCS           |              |                            | 99.5    |           | %     |     | 80-120 | 16-APR-20     |
| <b>WG3305551-2</b><br>F1 (C6-C10)     | МВ            |              |                            | <25     |           | ug/L  |     | 25     | 16-APR-20     |
| Surrogate: 3,4-D                      | Dichloroto    | oluene       |                            | 92.5    |           | %     |     | 60-140 | 16-APR-20     |
| <b>WG3305551-5</b><br>F1 (C6-C10)     | MS            |              | WG3305551-3                | 88.0    |           | %     |     | 60-140 | 16-APR-20     |
| F2-F4-511-WT                          |               | Water        |                            |         |           |       |     |        |               |
|                                       | 057219        |              |                            |         |           |       |     |        |               |
| <b>WG3308214-2</b><br>F2 (C10-C16)    | LCS           |              |                            | 107.9   |           | %     |     | 70-130 | 16-APR-20     |
| F3 (C16-C34)                          |               |              |                            | 107.7   |           | %     |     | 70-130 | 16-APR-20     |
| F4 (C34-C50)                          |               |              |                            | 114.2   |           | %     |     | 70-130 | 16-APR-20     |
| WG3308214-1                           | МВ            |              |                            |         |           |       |     |        | 10 / 11 12 20 |
| F2 (C10-C16)                          |               |              |                            | <100    |           | ug/L  |     | 100    | 16-APR-20     |
| F3 (C16-C34)                          |               |              |                            | <250    |           | ug/L  |     | 250    | 16-APR-20     |
| F4 (C34-C50)                          |               |              |                            | <250    |           | ug/L  |     | 250    | 16-APR-20     |
| Surrogate: 2-Bro                      | omobenz       | otrifluoride |                            | 93.0    |           | %     |     | 60-140 | 16-APR-20     |
| HG-D-UG/L-CVAA-                       | WT            | Water        |                            |         |           |       |     |        |               |
| Batch R5                              | 057100        |              |                            |         |           |       |     |        |               |
| <b>WG3308333-3</b><br>Mercury (Hg)-Di |               |              | <b>L2436459-6</b> <0.0050  | <0.0050 | RPD-NA    | ug/L  | N/A | 20     | 15-APR-20     |
| <b>WG3308333-2</b><br>Mercury (Hg)-Di |               |              |                            | 103.0   |           | %     |     | 80-120 | 15-APR-20     |
| <b>WG3308333-1</b><br>Mercury (Hg)-Di | MB<br>ssolved |              |                            | <0.0050 |           | ug/L  |     | 0.005  | 15-APR-20     |
| WG3308333-4                           | MS            |              | L2436459-7                 |         |           |       |     |        |               |
| I                                     |               |              |                            |         |           |       |     |        |               |



Qualifier

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RPD

Limit

Analyzed

Units

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

Reference

Result

KITCHENER ON N2G 4Y9

Matrix

Contact: MICHAEL SHIRY

Test

| rest                                      | Wallix | Reference              | Result  | Qualifier | Ullits | KPD | Lillit | Analyzeu  |
|-------------------------------------------|--------|------------------------|---------|-----------|--------|-----|--------|-----------|
| HG-D-UG/L-CVAA-WT                         | Water  |                        |         |           |        |     |        |           |
| Batch R5057100                            |        |                        |         |           |        |     |        |           |
| WG3308333-4 MS<br>Mercury (Hg)-Dissolved  | I      | L2436459-7             | 91.3    |           | %      |     | 70-130 | 15-APR-20 |
|                                           |        |                        |         |           |        |     |        |           |
| MET-D-UG/L-MS-WT                          | Water  |                        |         |           |        |     |        |           |
| Batch R5057638                            |        |                        |         |           |        |     |        |           |
| WG3308446-4 DUP<br>Antimony (Sb)-Dissolve | ed     | <b>WG3308446-3</b> 1.7 | 1.7     |           | ug/L   | 0.2 | 20     | 16-APR-20 |
| Arsenic (As)-Dissolved                    |        | 3.3                    | 3.7     |           | ug/L   | 9.9 | 20     | 16-APR-20 |
| Barium (Ba)-Dissolved                     |        | 336                    | 334     |           | ug/L   | 0.6 | 20     | 16-APR-20 |
| Beryllium (Be)-Dissolve                   | d      | <1.0                   | <1.0    | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Boron (B)-Dissolved                       |        | 670                    | 650     |           | ug/L   | 2.9 | 20     | 16-APR-20 |
| Cadmium (Cd)-Dissolve                     | ed     | <0.050                 | <0.050  | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Chromium (Cr)-Dissolve                    | ed     | <5.0                   | <5.0    | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Cobalt (Co)-Dissolved                     |        | <1.0                   | <1.0    | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Copper (Cu)-Dissolved                     |        | <2.0                   | <2.0    | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Lead (Pb)-Dissolved                       |        | 0.74                   | 0.71    |           | ug/L   | 4.3 | 20     | 16-APR-20 |
| Molybdenum (Mo)-Diss                      | olved  | 11.3                   | 11.6    |           | ug/L   | 2.7 | 20     | 16-APR-20 |
| Nickel (Ni)-Dissolved                     |        | <5.0                   | <5.0    | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Selenium (Se)-Dissolve                    | ed     | <0.50                  | <0.50   | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Silver (Ag)-Dissolved                     |        | <0.50                  | <0.50   | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Sodium (Na)-Dissolved                     |        | 1270000                | 1270000 |           | ug/L   | 0.3 | 20     | 16-APR-20 |
| Thallium (TI)-Dissolved                   |        | <0.10                  | <0.10   | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Uranium (U)-Dissolved                     |        | 3.40                   | 3.43    |           | ug/L   | 1.1 | 20     | 16-APR-20 |
| Vanadium (V)-Dissolve                     | d      | <5.0                   | <5.0    | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| Zinc (Zn)-Dissolved                       |        | <10                    | <10     | RPD-NA    | ug/L   | N/A | 20     | 16-APR-20 |
| WG3308446-2 LCS                           |        |                        |         |           | 0.4    |     |        |           |
| Antimony (Sb)-Dissolve                    | ed     |                        | 99.7    |           | %      |     | 80-120 | 16-APR-20 |
| Arsenic (As)-Dissolved                    |        |                        | 103.5   |           | %      |     | 80-120 | 16-APR-20 |
| Barium (Ba)-Dissolved                     | d      |                        | 111.0   |           | %      |     | 80-120 | 16-APR-20 |
| Beryllium (Be)-Dissolve                   | a      |                        | 97.0    |           | %      |     | 80-120 | 16-APR-20 |
| Boron (B)-Dissolved                       | ad     |                        | 92.9    |           | %      |     | 80-120 | 16-APR-20 |
| Cadmium (Cd)-Dissolve                     |        |                        | 101.6   |           | %      |     | 80-120 | 16-APR-20 |
| Chromium (Cr)-Dissolved                   | eu     |                        | 98.9    |           | %      |     | 80-120 | 16-APR-20 |
| Cobalt (Co)-Dissolved                     |        |                        | 99.4    |           | %      |     | 80-120 | 16-APR-20 |
| Copper (Cu)-Dissolved                     |        |                        | 96.8    |           |        |     | 80-120 |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                     | Matrix          | Reference   | Result      | Qualifier | Units | RPD | Limit  | Analyzed               |
|------------------------------------------|-----------------|-------------|-------------|-----------|-------|-----|--------|------------------------|
| MET-D-UG/L-MS-WT                         | Water           |             |             |           |       |     |        |                        |
| Batch R5057638                           | 3               |             |             |           |       |     |        |                        |
| WG3308446-2 LCS                          |                 |             | 00.0        |           | 0/    |     |        |                        |
| Copper (Cu)-Dissolved                    |                 |             | 96.8        |           | %     |     | 80-120 | 16-APR-20              |
| Lead (Pb)-Dissolved                      | l d             |             | 102.3       |           | %     |     | 80-120 | 16-APR-20              |
| Molybdenum (Mo)-Diss                     | soivea          |             | 103.2       |           | %     |     | 80-120 | 16-APR-20              |
| Nickel (Ni)-Dissolved                    | 1               |             | 97.3        |           | %     |     | 80-120 | 16-APR-20              |
| Selenium (Se)-Dissolve                   | ea              |             | 97.6        |           | %     |     | 80-120 | 16-APR-20              |
| Silver (Ag)-Dissolved                    |                 |             | 104.9       |           | %     |     | 80-120 | 16-APR-20              |
| Sodium (Na)-Dissolved                    |                 |             | 96.6        |           | %     |     | 80-120 | 16-APR-20              |
| Thallium (TI)-Dissolved                  |                 |             | 99.7        |           | %     |     | 80-120 | 16-APR-20              |
| Uranium (U)-Dissolved                    |                 |             | 101.6       |           | %     |     | 80-120 | 16-APR-20              |
| Vanadium (V)-Dissolve                    | ed              |             | 104.0       |           | %     |     | 80-120 | 16-APR-20              |
| Zinc (Zn)-Dissolved                      |                 |             | 98.7        |           | %     |     | 80-120 | 16-APR-20              |
| WG3308446-1 MB<br>Antimony (Sb)-Dissolve | 2d              |             | <0.10       |           | ug/L  |     | 0.1    | 16-APR-20              |
| Arsenic (As)-Dissolved                   |                 |             | <0.10       |           | ug/L  |     | 0.1    | 16-APR-20<br>16-APR-20 |
| Barium (Ba)-Dissolved                    |                 |             | <0.10       |           | ug/L  |     | 0.1    |                        |
| Beryllium (Be)-Dissolve                  | 2d              |             | <0.10       |           | ug/L  |     | 0.1    | 16-APR-20<br>16-APR-20 |
| Boron (B)-Dissolved                      | , u             |             | <10         |           | ug/L  |     | 10     | 16-APR-20              |
| Cadmium (Cd)-Dissolv                     | ed              |             | <0.0050     |           | ug/L  |     | 0.005  | 16-APR-20              |
| Chromium (Cr)-Dissolv                    |                 |             | <0.50       |           | ug/L  |     | 0.5    | 16-APR-20              |
| Cobalt (Co)-Dissolved                    | cu              |             | <0.10       |           | ug/L  |     | 0.3    |                        |
| Copper (Cu)-Dissolved                    |                 |             | <0.20       |           | ug/L  |     | 0.2    | 16-APR-20<br>16-APR-20 |
| Lead (Pb)-Dissolved                      |                 |             | <0.20       |           | ug/L  |     | 0.05   | 16-APR-20              |
| Molybdenum (Mo)-Diss                     | colved          |             | <0.050      |           | ug/L  |     | 0.05   | 16-APR-20              |
| Nickel (Ni)-Dissolved                    | ,0,170 <b>u</b> |             | <0.50       |           | ug/L  |     | 0.03   | 16-APR-20              |
| Selenium (Se)-Dissolve                   | ed.             |             | <0.050      |           | ug/L  |     | 0.05   | 16-APR-20<br>16-APR-20 |
| Silver (Ag)-Dissolved                    |                 |             | <0.050      |           | ug/L  |     | 0.05   | 16-APR-20<br>16-APR-20 |
| Sodium (Na)-Dissolved                    | I               |             | <50         |           | ug/L  |     | 50     |                        |
| Thallium (TI)-Dissolved                  |                 |             | <0.010      |           | ug/L  |     | 0.01   | 16-APR-20<br>16-APR-20 |
| Uranium (U)-Dissolved                    |                 |             | <0.010      |           | ug/L  |     | 0.01   | 16-APR-20              |
| Vanadium (V)-Dissolved                   |                 |             | <0.50       |           | ug/L  |     | 0.5    |                        |
| Zinc (Zn)-Dissolved                      | ·u              |             | <1.0        |           | ug/L  |     | 1      | 16-APR-20              |
| ` '                                      |                 | WG220944C C | <b>\1.0</b> |           | ug/L  |     | •      | 16-APR-20              |
| WG3308446-5 MS<br>Antimony (Sb)-Dissolve | ed              | WG3308446-6 | 95.5        |           | %     |     | 70-130 | 16-APR-20              |
| Arsenic (As)-Dissolved                   |                 |             | 96.6        |           | %     |     | 70-130 | 16-APR-20              |
| ` ′                                      |                 |             |             |           |       |     |        | - · · · · - ·          |



Workorder: L2437013 Report Date: 20-APR-20 Page 5 of 12

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                    | Matrix   | Reference  | Result      | Qualifier | Units | RPD | Limit            | Analyzed               |
|-----------------------------------------|----------|------------|-------------|-----------|-------|-----|------------------|------------------------|
| MET-D-UG/L-MS-WT                        | Water    |            |             |           |       |     |                  |                        |
| Batch R5057638                          |          |            |             |           |       |     |                  |                        |
| WG3308446-5 MS<br>Barium (Ba)-Dissolved |          | WG3308446- | 6<br>N/A    | MS-B      | %     |     |                  | 4C ADD 00              |
| Beryllium (Be)-Dissolved                | 1        |            | 92.7        | IVIO-D    | %     |     | 70.400           | 16-APR-20              |
| Boron (B)-Dissolved                     | 4        |            | 92.7<br>N/A | MS-B      | %     |     | 70-130<br>-      | 16-APR-20              |
| Cadmium (Cd)-Dissolve                   | d        |            | 92.4        | IVIO-D    | %     |     |                  | 16-APR-20              |
| Chromium (Cr)-Dissolve                  |          |            | 95.4        |           | %     |     | 70-130<br>70-130 | 16-APR-20              |
| Cobalt (Co)-Dissolved                   | ·u       |            | 92.6        |           | %     |     | 70-130           | 16-APR-20<br>16-APR-20 |
| Copper (Cu)-Dissolved                   |          |            | 92.6        |           | %     |     |                  |                        |
| Lead (Pb)-Dissolved                     |          |            | 89.2        |           | %     |     | 70-130           | 16-APR-20<br>16-APR-20 |
| Nickel (Ni)-Dissolved                   |          |            | 82.3        |           | %     |     | 70-130           |                        |
| Selenium (Se)-Dissolved                 | 4        |            | 91.6        |           | %     |     | 70-130           | 16-APR-20              |
| Silver (Ag)-Dissolved                   | <b>.</b> |            | 89.9        |           | %     |     | 70-130           | 16-APR-20              |
| Sodium (Na)-Dissolved                   |          |            | N/A         | MS-B      | %     |     | 70-130           | 16-APR-20              |
| Thallium (TI)-Dissolved                 |          |            | 89.1        | IVIO-D    | %     |     | 70.400           | 16-APR-20<br>16-APR-20 |
| Uranium (U)-Dissolved                   |          |            | N/A         | MS-B      | %     |     | 70-130           |                        |
| Vanadium (V)-Dissolved                  | i        |            | 101.4       | IVIO-D    | %     |     | 70.400           | 16-APR-20              |
| Zinc (Zn)-Dissolved                     | ı        |            | 80.1        |           | %     |     | 70-130           | 16-APR-20              |
|                                         |          |            | OU. I       |           | /0    |     | 70-130           | 16-APR-20              |
| PAH-511-WT<br>Batch R5057280            | Water    |            |             |           |       |     |                  |                        |
| WG3308214-2 LCS                         |          |            |             |           |       |     |                  |                        |
| 1-Methylnaphthalene                     |          |            | 91.6        |           | %     |     | 50-140           | 16-APR-20              |
| 2-Methylnaphthalene                     |          |            | 87.6        |           | %     |     | 50-140           | 16-APR-20              |
| Acenaphthene                            |          |            | 98.0        |           | %     |     | 50-140           | 16-APR-20              |
| Acenaphthylene                          |          |            | 102.3       |           | %     |     | 50-140           | 16-APR-20              |
| Anthracene                              |          |            | 100.4       |           | %     |     | 50-140           | 16-APR-20              |
| Benzo(a)anthracene                      |          |            | 111.5       |           | %     |     | 50-140           | 16-APR-20              |
| Benzo(a)pyrene                          |          |            | 99.3        |           | %     |     | 50-140           | 16-APR-20              |
| Benzo(b)fluoranthene                    |          |            | 94.7        |           | %     |     | 50-140           | 16-APR-20              |
| Benzo(g,h,i)perylene                    |          |            | 107.8       |           | %     |     | 50-140           | 16-APR-20              |
| Benzo(k)fluoranthene                    |          |            | 99.3        |           | %     |     | 50-140           | 16-APR-20              |
| Chrysene                                |          |            | 103.1       |           | %     |     | 50-140           | 16-APR-20              |
| Dibenzo(ah)anthracene                   |          |            | 105.8       |           | %     |     | 50-140           | 16-APR-20              |
| Fluoranthene                            |          |            | 107.6       |           | %     |     | 50-140           | 16-APR-20              |
| Fluorene                                |          |            | 103.8       |           | %     |     | 50-140           | 16-APR-20              |
| Indeno(1,2,3-cd)pyrene                  |          |            | 126.8       |           | %     |     | 50-140           |                        |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                      | Matrix | Reference               | Result | Qualifier | Units    | RPD  | Limit            | Analyzed  |
|-------------------------------------------|--------|-------------------------|--------|-----------|----------|------|------------------|-----------|
| PAH-511-WT                                | Water  |                         |        |           |          |      |                  |           |
| Batch R5057280                            |        |                         |        |           |          |      |                  |           |
| WG3308214-2 LCS<br>Indeno(1,2,3-cd)pyrene |        |                         | 126.8  |           | %        |      | 50.440           | 40 ADD 00 |
| Naphthalene                               |        |                         | 95.0   |           | %        |      | 50-140           | 16-APR-20 |
| Phenanthrene                              |        |                         | 107.0  |           | %        |      | 50-140<br>50-140 | 16-APR-20 |
| Pyrene                                    |        |                         | 107.0  |           | %        |      |                  | 16-APR-20 |
| •                                         |        |                         | 100.9  |           | 76       |      | 50-140           | 16-APR-20 |
| WG3308214-1 MB 1-Methylnaphthalene        |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| 2-Methylnaphthalene                       |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Acenaphthene                              |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Acenaphthylene                            |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Anthracene                                |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Benzo(a)anthracene                        |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Benzo(a)pyrene                            |        |                         | <0.010 |           | ug/L     |      | 0.01             | 16-APR-20 |
| Benzo(b)fluoranthene                      |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Benzo(g,h,i)perylene                      |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Benzo(k)fluoranthene                      |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Chrysene                                  |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Dibenzo(ah)anthracene                     |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Fluoranthene                              |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Fluorene                                  |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Indeno(1,2,3-cd)pyrene                    |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Naphthalene                               |        |                         | <0.050 |           | ug/L     |      | 0.05             | 16-APR-20 |
| Phenanthrene                              |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Pyrene                                    |        |                         | <0.020 |           | ug/L     |      | 0.02             | 16-APR-20 |
| Surrogate: d8-Naphthale                   | ene    |                         | 102.9  |           | %        |      | 60-140           | 16-APR-20 |
| Surrogate: d10-Phenant                    | hrene  |                         | 108.8  |           | %        |      | 60-140           | 16-APR-20 |
| Surrogate: d12-Chrysen                    | е      |                         | 100.6  |           | %        |      | 60-140           | 16-APR-20 |
| Surrogate: d10-Acenaph                    | thene  |                         | 102.0  |           | %        |      | 60-140           | 16-APR-20 |
| PH-WT                                     | Water  |                         |        |           |          |      |                  |           |
| Batch R5057741                            |        |                         |        |           |          |      |                  |           |
| <b>WG3308753-4 DUP</b><br>pH              |        | <b>WG3308753-3</b> 7.40 | 7.35   | J         | pH units | 0.05 | 0.2              | 16-APR-20 |
| <b>WG3308753-2 LCS</b> pH                 |        |                         | 7.03   |           | pH units |      | 6.9-7.1          | 16-APR-20 |
| VOC-511-HS-WT                             | Water  |                         |        |           |          |      |                  |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                   | Matrix         | Reference               | Result          | Qualifier | Units | RPD  | Limit | Analyzed  |
|----------------------------------------|----------------|-------------------------|-----------------|-----------|-------|------|-------|-----------|
| VOC-511-HS-WT                          | Water          |                         |                 |           |       |      |       |           |
| Batch R50571                           | 198            |                         |                 |           |       |      |       |           |
| WG3305551-4 DU<br>1,1,1,2-Tetrachloroe |                | <b>WG3305551</b> -<0.50 | <b>-3</b> <0.50 | DDD MA    | ua/l  | N1/A | 20    | 40 APP 00 |
| 1,1,2,2-Tetrachloroe                   |                | <0.50                   |                 | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| 1,1,1-Trichloroethan                   |                | <0.50                   | <0.50<br><0.50  | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| 1,1,2-Trichloroethan                   |                | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| 1,1-Dichloroethane                     | i <del>c</del> |                         |                 | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| 1,1-Dichloroethylene                   |                | 1.01                    | 1.02            | DDD NA    | ug/L  | 1.0  | 30    | 16-APR-20 |
| 1,2-Dibromoethane                      | =              | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| •                                      | _              | <0.20                   | <0.20           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| 1,2-Dichlorobenzene                    | e              | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| 1,2-Dichloroethane                     |                | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| 1,2-Dichloropropane                    |                | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| 1,3-Dichlorobenzene                    |                | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| 1,4-Dichlorobenzene                    | 9              | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Acetone                                |                | <30                     | <30             | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Benzene                                |                | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Bromodichlorometha                     | ane            | <2.0                    | <2.0            | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Bromoform                              |                | <5.0                    | <5.0            | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Bromomethane                           |                | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Carbon tetrachloride                   | •              | <0.20                   | <0.20           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Chlorobenzene                          |                | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Chloroform                             |                | <1.0                    | <1.0            | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| cis-1,2-Dichloroethyl                  | lene           | <0.50                   | < 0.50          | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| cis-1,3-Dichloroprop                   | ene            | <0.30                   | < 0.30          | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Dibromochlorometha                     | ane            | <2.0                    | <2.0            | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Dichlorodifluorometh                   | nane           | <2.0                    | <2.0            | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Ethylbenzene                           |                | <0.50                   | <0.50           | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| n-Hexane                               |                | <0.50                   | < 0.50          | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| m+p-Xylenes                            |                | <0.40                   | < 0.40          | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Methyl Ethyl Ketone                    |                | <20                     | <20             | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Methyl Isobutyl Keto                   | ne             | <20                     | <20             | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Methylene Chloride                     |                | <5.0                    | <5.0            | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| MTBE                                   |                | <2.0                    | <2.0            | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| o-Xylene                               |                | <0.30                   | < 0.30          | RPD-NA    | ug/L  | N/A  | 30    | 16-APR-20 |
| Styrene                                |                | <0.50                   | < 0.50          |           | ug/L  |      |       | 16-APR-20 |
|                                        |                |                         |                 |           |       |      |       |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                      | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                             | Water  |            |        |           |       |     |        |           |
| Batch R505719                             | 8      |            |        |           |       |     |        |           |
| WG3305551-4 DUP                           |        | WG3305551- |        |           |       |     |        |           |
| Styrene                                   |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 16-APR-20 |
| Tetrachloroethylene                       |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 16-APR-20 |
| Toluene                                   |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 16-APR-20 |
| trans-1,2-Dichloroethy                    | rlene  | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 16-APR-20 |
| trans-1,3-Dichloroprop                    | pene   | <0.30      | <0.30  | RPD-NA    | ug/L  | N/A | 30     | 16-APR-20 |
| Trichloroethylene                         |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 16-APR-20 |
| Trichlorofluoromethan                     | е      | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A | 30     | 16-APR-20 |
| Vinyl chloride                            |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 16-APR-20 |
| WG3305551-1 LCS<br>1,1,1,2-Tetrachloroeth |        |            | 92.9   |           | %     |     | 70-130 | 16-APR-20 |
| 1,1,2,2-Tetrachloroeth                    | ane    |            | 88.0   |           | %     |     | 70-130 | 16-APR-20 |
| 1,1,1-Trichloroethane                     |        |            | 102.1  |           | %     |     | 70-130 | 16-APR-20 |
| 1,1,2-Trichloroethane                     |        |            | 91.2   |           | %     |     | 70-130 | 16-APR-20 |
| 1,1-Dichloroethane                        |        |            | 95.9   |           | %     |     | 70-130 | 16-APR-20 |
| 1,1-Dichloroethylene                      |        |            | 87.3   |           | %     |     | 70-130 | 16-APR-20 |
| 1,2-Dibromoethane                         |        |            | 89.1   |           | %     |     | 70-130 | 16-APR-20 |
| 1,2-Dichlorobenzene                       |        |            | 99.2   |           | %     |     | 70-130 | 16-APR-20 |
| 1,2-Dichloroethane                        |        |            | 88.2   |           | %     |     | 70-130 | 16-APR-20 |
| 1,2-Dichloropropane                       |        |            | 91.3   |           | %     |     | 70-130 | 16-APR-20 |
| 1,3-Dichlorobenzene                       |        |            | 99.5   |           | %     |     | 70-130 | 16-APR-20 |
| 1,4-Dichlorobenzene                       |        |            | 101.0  |           | %     |     | 70-130 | 16-APR-20 |
| Acetone                                   |        |            | 88.8   |           | %     |     | 60-140 | 16-APR-20 |
| Benzene                                   |        |            | 102.1  |           | %     |     | 70-130 | 16-APR-20 |
| Bromodichloromethan                       | e      |            | 95.0   |           | %     |     | 70-130 | 16-APR-20 |
| Bromoform                                 |        |            | 91.0   |           | %     |     | 70-130 | 16-APR-20 |
| Bromomethane                              |        |            | 84.8   |           | %     |     | 60-140 | 16-APR-20 |
| Carbon tetrachloride                      |        |            | 106.1  |           | %     |     | 70-130 | 16-APR-20 |
| Chlorobenzene                             |        |            | 96.3   |           | %     |     | 70-130 | 16-APR-20 |
| Chloroform                                |        |            | 101.5  |           | %     |     | 70-130 | 16-APR-20 |
| cis-1,2-Dichloroethyler                   | ne     |            | 90.5   |           | %     |     | 70-130 | 16-APR-20 |
| cis-1,3-Dichloroproper                    | ne     |            | 91.1   |           | %     |     | 70-130 | 16-APR-20 |
| Dibromochloromethan                       | ie     |            | 89.9   |           | %     |     | 70-130 | 16-APR-20 |
| Dichlorodifluorometha                     | ne     |            | 91.9   |           | %     |     | 50-140 | 16-APR-20 |
|                                           |        |            |        |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                            | Matrix | Reference | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------|--------|-----------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                   | Water  |           |        |           |       |     |        |           |
| Batch R5057198                  |        |           |        |           |       |     |        |           |
| WG3305551-1 LCS<br>Ethylbenzene |        |           | 93.7   |           | %     |     | 70-130 | 16-APR-20 |
| n-Hexane                        |        |           | 86.5   |           | %     |     | 70-130 | 16-APR-20 |
| m+p-Xylenes                     |        |           | 95.4   |           | %     |     | 70-130 | 16-APR-20 |
| Methyl Ethyl Ketone             |        |           | 85.8   |           | %     |     | 60-140 | 16-APR-20 |
| Methyl Isobutyl Ketone          |        |           | 79.5   |           | %     |     | 60-140 | 16-APR-20 |
| Methylene Chloride              |        |           | 92.5   |           | %     |     | 70-130 | 16-APR-20 |
| MTBE                            |        |           | 96.6   |           | %     |     | 70-130 | 16-APR-20 |
| o-Xylene                        |        |           | 101.0  |           | %     |     | 70-130 | 16-APR-20 |
| Styrene                         |        |           | 86.6   |           | %     |     | 70-130 | 16-APR-20 |
| Tetrachloroethylene             |        |           | 105.1  |           | %     |     | 70-130 | 16-APR-20 |
| Toluene                         |        |           | 96.4   |           | %     |     | 70-130 | 16-APR-20 |
| trans-1,2-Dichloroethyler       | ne     |           | 90.4   |           | %     |     | 70-130 | 16-APR-20 |
| trans-1,3-Dichloropropen        | ie     |           | 90.9   |           | %     |     | 70-130 | 16-APR-20 |
| Trichloroethylene               |        |           | 103.1  |           | %     |     | 70-130 | 16-APR-20 |
| Trichlorofluoromethane          |        |           | 95.3   |           | %     |     | 60-140 | 16-APR-20 |
| Vinyl chloride                  |        |           | 111.7  |           | %     |     | 60-140 | 16-APR-20 |
| WG3305551-2 MB                  |        |           |        |           |       |     |        |           |
| 1,1,1,2-Tetrachloroethan        |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,1,2,2-Tetrachloroethan        | е      |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,1,1-Trichloroethane           |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,1,2-Trichloroethane           |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,1-Dichloroethane              |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,1-Dichloroethylene            |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,2-Dibromoethane               |        |           | <0.20  |           | ug/L  |     | 0.2    | 16-APR-20 |
| 1,2-Dichlorobenzene             |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,2-Dichloroethane              |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,2-Dichloropropane             |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,3-Dichlorobenzene             |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| 1,4-Dichlorobenzene             |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| Acetone                         |        |           | <30    |           | ug/L  |     | 30     | 16-APR-20 |
| Benzene                         |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |
| Bromodichloromethane            |        |           | <2.0   |           | ug/L  |     | 2      | 16-APR-20 |
| Bromoform                       |        |           | <5.0   |           | ug/L  |     | 5      | 16-APR-20 |
| Bromomethane                    |        |           | <0.50  |           | ug/L  |     | 0.5    | 16-APR-20 |



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Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                | Matrix    | Reference   | Result | Qualifier | Units        | RPD | Limit  | Analyzed               |
|-------------------------------------|-----------|-------------|--------|-----------|--------------|-----|--------|------------------------|
| VOC-511-HS-WT                       | Water     |             |        |           |              |     |        |                        |
| Batch R5057198                      |           |             |        |           |              |     |        |                        |
| WG3305551-2 MB Carbon tetrachloride |           |             | <0.20  |           | ug/l         |     | 0.2    | 40 APP 00              |
| Chlorobenzene                       |           |             | <0.50  |           | ug/L<br>ug/L |     | 0.5    | 16-APR-20<br>16-APR-20 |
| Chloroform                          |           |             | <1.0   |           | ug/L         |     | 1      | 16-APR-20<br>16-APR-20 |
| cis-1,2-Dichloroethylene            | ۵         |             | <0.50  |           | ug/L         |     | 0.5    | 16-APR-20              |
| cis-1,3-Dichloropropene             |           |             | <0.30  |           | ug/L         |     | 0.3    | 16-APR-20              |
| Dibromochloromethane                |           |             | <2.0   |           | ug/L         |     | 2      | 16-APR-20              |
| Dichlorodifluoromethan              |           |             | <2.0   |           | ug/L         |     | 2      | 16-APR-20              |
| Ethylbenzene                        |           |             | <0.50  |           | ug/L         |     | 0.5    | 16-APR-20              |
| n-Hexane                            |           |             | <0.50  |           | ug/L         |     | 0.5    | 16-APR-20              |
| m+p-Xylenes                         |           |             | <0.40  |           | ug/L         |     | 0.4    | 16-APR-20              |
| Methyl Ethyl Ketone                 |           |             | <20    |           | ug/L         |     | 20     | 16-APR-20              |
| Methyl Isobutyl Ketone              |           |             | <20    |           | ug/L         |     | 20     | 16-APR-20              |
| Methylene Chloride                  |           |             | <5.0   |           | ug/L         |     | 5      | 16-APR-20              |
| MTBE                                |           |             | <2.0   |           | ug/L         |     | 2      | 16-APR-20              |
| o-Xylene                            |           |             | <0.30  |           | ug/L         |     | 0.3    | 16-APR-20              |
| Styrene                             |           |             | <0.50  |           | ug/L         |     | 0.5    | 16-APR-20              |
| Tetrachloroethylene                 |           |             | <0.50  |           | ug/L         |     | 0.5    | 16-APR-20              |
| Toluene                             |           |             | <0.50  |           | ug/L         |     | 0.5    | 16-APR-20              |
| trans-1,2-Dichloroethyle            | ene       |             | <0.50  |           | ug/L         |     | 0.5    | 16-APR-20              |
| trans-1,3-Dichloroprope             | ene       |             | <0.30  |           | ug/L         |     | 0.3    | 16-APR-20              |
| Trichloroethylene                   |           |             | <0.50  |           | ug/L         |     | 0.5    | 16-APR-20              |
| Trichlorofluoromethane              |           |             | <5.0   |           | ug/L         |     | 5      | 16-APR-20              |
| Vinyl chloride                      |           |             | <0.50  |           | ug/L         |     | 0.5    | 16-APR-20              |
| Surrogate: 1,4-Difluorol            | penzene   |             | 100.3  |           | %            |     | 70-130 | 16-APR-20              |
| Surrogate: 4-Bromofluo              | robenzene |             | 96.5   |           | %            |     | 70-130 | 16-APR-20              |
| WG3305551-5 MS                      |           | WG3305551-3 |        |           |              |     |        |                        |
| 1,1,1,2-Tetrachloroetha             |           |             | 91.3   |           | %            |     | 50-140 | 16-APR-20              |
| 1,1,2,2-Tetrachloroetha             | ine       |             | 88.5   |           | %            |     | 50-140 | 16-APR-20              |
| 1,1,1-Trichloroethane               |           |             | 100.7  |           | %            |     | 50-140 | 16-APR-20              |
| 1,1,2-Trichloroethane               |           |             | 91.6   |           | %            |     | 50-140 | 16-APR-20              |
| 1,1-Dichloroethane                  |           |             | 96.3   |           | %            |     | 50-140 | 16-APR-20              |
| 1,1-Dichloroethylene                |           |             | 85.6   |           | %            |     | 50-140 | 16-APR-20              |
| 1,2-Dibromoethane                   |           |             | 89.6   |           | %            |     | 50-140 | 16-APR-20              |
| 1,2-Dichlorobenzene                 |           |             | 98.9   |           | %            |     | 50-140 | 16-APR-20              |



Workorder: L2437013 Report Date: 20-APR-20 Page 11 of 12

Client: CH2M HILL CANADA LIMITED

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                 | Matrix | Reference   | Result           | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------|--------|-------------|------------------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                        | Water  |             |                  |           |       |     |        |           |
| Batch R5057198                       |        |             |                  |           |       |     |        |           |
| WG3305551-5 MS<br>1,2-Dichloroethane |        | WG3305551-3 | <b>3</b><br>91.0 |           | %     |     | 50-140 | 16-APR-20 |
| 1,2-Dichloropropane                  |        |             | 92.8             |           | %     |     | 50-140 | 16-APR-20 |
| 1,3-Dichlorobenzene                  |        |             | 99.3             |           | %     |     | 50-140 | 16-APR-20 |
| 1,4-Dichlorobenzene                  |        |             | 101.5            |           | %     |     | 50-140 | 16-APR-20 |
| Acetone                              |        |             | 101.2            |           | %     |     | 50-140 | 16-APR-20 |
| Benzene                              |        |             | 102.5            |           | %     |     | 50-140 | 16-APR-20 |
| Bromodichloromethane                 |        |             | 97.2             |           | %     |     | 50-140 | 16-APR-20 |
| Bromoform                            |        |             | 91.5             |           | %     |     | 50-140 | 16-APR-20 |
| Bromomethane                         |        |             | 79.8             |           | %     |     | 50-140 | 16-APR-20 |
| Carbon tetrachloride                 |        |             | 104.1            |           | %     |     | 50-140 | 16-APR-20 |
| Chlorobenzene                        |        |             | 96.0             |           | %     |     | 50-140 | 16-APR-20 |
| Chloroform                           |        |             | 102.5            |           | %     |     | 50-140 | 16-APR-20 |
| cis-1,2-Dichloroethylene             |        |             | 91.1             |           | %     |     | 50-140 | 16-APR-20 |
| cis-1,3-Dichloropropene              |        |             | 87.6             |           | %     |     | 50-140 | 16-APR-20 |
| Dibromochloromethane                 |        |             | 89.8             |           | %     |     | 50-140 | 16-APR-20 |
| Dichlorodifluoromethane              |        |             | 83.8             |           | %     |     | 50-140 | 16-APR-20 |
| Ethylbenzene                         |        |             | 90.8             |           | %     |     | 50-140 | 16-APR-20 |
| n-Hexane                             |        |             | 83.7             |           | %     |     | 50-140 | 16-APR-20 |
| m+p-Xylenes                          |        |             | 93.5             |           | %     |     | 50-140 | 16-APR-20 |
| Methyl Ethyl Ketone                  |        |             | 96.0             |           | %     |     | 50-140 | 16-APR-20 |
| Methyl Isobutyl Ketone               |        |             | 84.1             |           | %     |     | 50-140 | 16-APR-20 |
| Methylene Chloride                   |        |             | 93.7             |           | %     |     | 50-140 | 16-APR-20 |
| MTBE                                 |        |             | 96.8             |           | %     |     | 50-140 | 16-APR-20 |
| o-Xylene                             |        |             | 98.2             |           | %     |     | 50-140 | 16-APR-20 |
| Styrene                              |        |             | 84.6             |           | %     |     | 50-140 | 16-APR-20 |
| Tetrachloroethylene                  |        |             | 101.5            |           | %     |     | 50-140 | 16-APR-20 |
| Toluene                              |        |             | 94.0             |           | %     |     | 50-140 | 16-APR-20 |
| trans-1,2-Dichloroethyler            | ne     |             | 90.4             |           | %     |     | 50-140 | 16-APR-20 |
| trans-1,3-Dichloroproper             | ne     |             | 83.3             |           | %     |     | 50-140 | 16-APR-20 |
| Trichloroethylene                    |        |             | 102.7            |           | %     |     | 50-140 | 16-APR-20 |
| Trichlorofluoromethane               |        |             | 91.6             |           | %     |     | 50-140 | 16-APR-20 |
| Vinyl chloride                       |        |             | 106.9            |           | %     |     | 50-140 | 16-APR-20 |
|                                      |        |             |                  |           |       |     |        |           |

Workorder: L2437013 Report Date: 20-APR-20

Client: CH2M HILL CANADA LIMITED Page 12 of 12

CH2M HILL CANADA LIMITED 72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: MICHAEL SHIRY

#### 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.        |

#### **Hold Time Exceedances:**

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

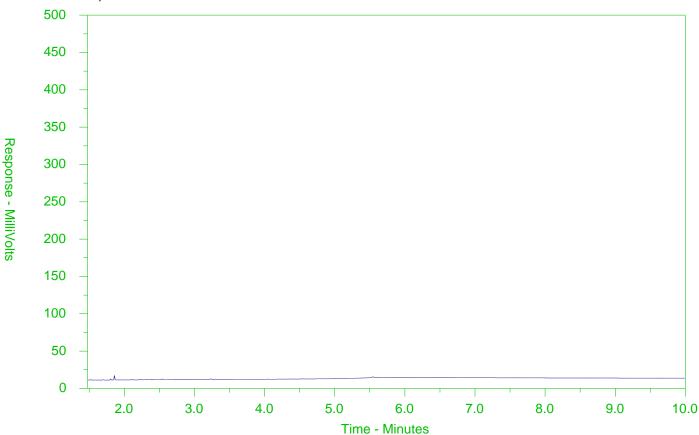
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where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



ALS Sample ID: L2437013-1 Client Sample ID: MW113



| <b>←</b> -F2- | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |  |  |  |  |  |  |  |
|---------------|-------------|------------------|---------------------------|---|--|--|--|--|--|--|--|
| nC10          | nC16        | nC34             | nC50                      |   |  |  |  |  |  |  |  |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |  |  |  |  |  |  |  |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |  |  |  |  |  |  |  |
| Gasolin       | ie →        | <b>←</b> Mo      | tor Oils/Lube Oils/Grease | - |  |  |  |  |  |  |  |
| •             | -Diesel/Jet | Fuels→           | ◆ Diesel/Jet Fuels →      |   |  |  |  |  |  |  |  |

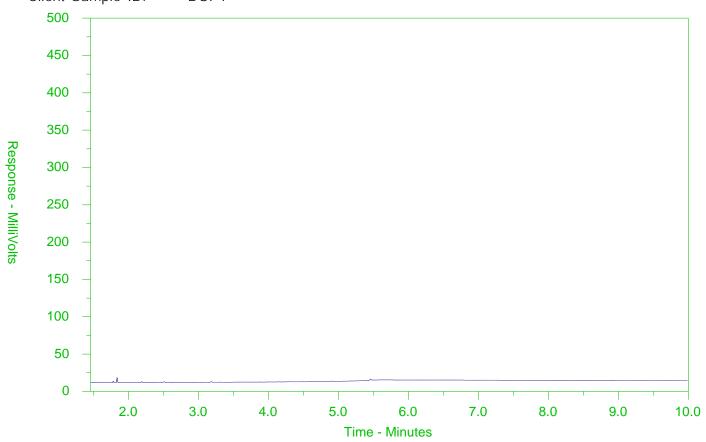
The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

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.



ALS Sample ID: L2437013-2 Client Sample ID: DUP1



| <b>←</b> -F2- | →←          | _F3 <b>→</b> F4- | <b>→</b>                  |   |  |  |  |  |  |  |  |
|---------------|-------------|------------------|---------------------------|---|--|--|--|--|--|--|--|
| nC10          | nC16        | nC34             | nC50                      |   |  |  |  |  |  |  |  |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |  |  |  |  |  |  |  |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |  |  |  |  |  |  |  |
| Gasolin       | ie →        | <b>←</b> Mo      | tor Oils/Lube Oils/Grease | - |  |  |  |  |  |  |  |
| •             | -Diesel/Jet | Fuels→           | ◆ 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.



#### Chain of Custody (COC) / Analytical Request Form

L2437013-COFC

COC Number: 17 - 796250

Canada Toll Free: 1 800 668 9878 www.alsolobal.com

|                                                                          | IVITAL SIGNOGULOUIS                    |                                                                                                    |                                                                              |                                                      |                                                  |                                                  |                                                  |                                                                                             |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
|--------------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------|----------------------|------------|--------------------------------------------------|---------------------------------------|-------------------------|------------------------------|-----------------|-----|--------------------------------------------------|-------------------------------|--|--|
| Report To Contact and company name bolow will appear on the final report |                                        |                                                                                                    | Report Formai                                                                |                                                      |                                                  |                                                  |                                                  | asiect Service Level Below - Contact your AM to confirm all E&P TATs (surcharges may apply) |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
| Company:                                                                 |                                        |                                                                                                    |                                                                              | Select Report Format: X PDF (CXCL)   1 CDD (DIGETAL) |                                                  |                                                  |                                                  |                                                                                             | Regular (R) Standard TAT if received by J pm - business days - no surcharges apply |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
| Contact:                                                                 | Michael Shiry / Amy Cosey              |                                                                                                    |                                                                              | Quality Control (QC) Report with Report     Yas   NO |                                                  |                                                  |                                                  |                                                                                             |                                                                                    |                 |                      |            |                                                  |                                       | Susiness day (E · 100%) |                              |                 |     |                                                  |                               |  |  |
| Phone: 519-803-2583                                                      |                                        |                                                                                                    | Compare Results to Criteria on Report   provide details below if box checked |                                                      |                                                  |                                                  |                                                  |                                                                                             |                                                                                    |                 |                      |            | Same Day, Weekend or Statutory holiday [E2 -200% |                                       |                         |                              |                 |     |                                                  |                               |  |  |
| Company address below will appear on the final report                    |                                        |                                                                                                    | Select Distribution:   EMAIL   MAII   FAX                                    |                                                      |                                                  |                                                  | 2 day [P2-50%]                                   |                                                                                             |                                                                                    |                 |                      |            | (Labor                                           | abgratory opening fees may apply) ]   |                         |                              |                 |     |                                                  |                               |  |  |
| Street:                                                                  | 72 Victoria St Sa                      | Email 1 or Fax Michael Shiry @ 190065 COH                                                          |                                                                              |                                                      |                                                  |                                                  |                                                  |                                                                                             |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              | dd-mmm-yy hhrmm |     |                                                  |                               |  |  |
| City/Province.                                                           | * Vitcheniee, ON                       |                                                                                                    |                                                                              | Email 2 tania. Mccarthy & Larchs COM                 |                                                  |                                                  |                                                  |                                                                                             | on the peri                                                                        | omee at         | cording 10           | the serv   | ge layel e                                       | relectes, p                           | rou well be o           | onte:ted.                    |                 |     |                                                  |                               |  |  |
| ostal Code:                                                              |                                        |                                                                                                    |                                                                              | Email any casey a kenbs con                          |                                                  |                                                  |                                                  |                                                                                             |                                                                                    |                 |                      |            |                                                  | <u> </u>                              | equest                  |                              |                 |     |                                                  | ᆔ                             |  |  |
| nvoice To                                                                | To Same as Report To 🗶 YES [ 100       |                                                                                                    |                                                                              | Invoice Distribution                                 |                                                  |                                                  |                                                  |                                                                                             | In                                                                                 | deale Fit       | lered (F).           |            |                                                  | or Fittered and Preserved (FiP) below |                         |                              |                 |     |                                                  | +                             |  |  |
|                                                                          | Copy of Invoice with Report   YES   NO |                                                                                                    |                                                                              | Select Invoice Distribution: KML MAL FAX             |                                                  |                                                  |                                                  | F                                                                                           |                                                                                    |                 | F                    | F          | F                                                |                                       |                         | <u></u>                      |                 |     | НОС                                              | [5]                           |  |  |
| Company:                                                                 | any:                                   |                                                                                                    |                                                                              | Email 1 or Fax                                       |                                                  |                                                  |                                                  |                                                                                             |                                                                                    |                 | Τ.                   |            |                                                  |                                       |                         |                              |                 |     | 0                                                | ΙĮΙ                           |  |  |
| Contact:                                                                 |                                        | Email 2                                                                                            |                                                                              |                                                      |                                                  |                                                  | 5                                                |                                                                                             | !                                                                                  |                 | i l                  | - 1        |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
| Project information                                                      |                                        |                                                                                                    | Oil and Gas Required Fields (client use)                                     |                                                      |                                                  |                                                  |                                                  | <u>§</u>                                                                                    |                                                                                    | :               |                      |            | - 1                                              |                                       |                         |                              |                 |     | N N                                              | 불                             |  |  |
| ALS Account #1 Quote #: 0729 80                                          |                                        |                                                                                                    | AFE/Cost Center PO#                                                          |                                                      |                                                  |                                                  |                                                  | <u> </u>                                                                                    |                                                                                    |                 |                      |            | - 1                                              |                                       |                         | 1                            |                 |     | O                                                | 8                             |  |  |
|                                                                          | E75 1900                               |                                                                                                    |                                                                              | Major/Minor Code. Routing Code                       |                                                  |                                                  |                                                  |                                                                                             | =                                                                                  | Ti              |                      |            |                                                  |                                       |                         | 1                            |                 | ĺ   | ဟ                                                |                               |  |  |
| · · · · · · · · · · · · · · · · · · ·                                    |                                        |                                                                                                    | Requisitioner:                                                               |                                                      |                                                  |                                                  |                                                  | Metats + horg                                                                               | ֓֞֞֞֞֜֞֜֞֓֓֓֓֓֓֓֓֓֓֓֓֓֡֓֓֓֡֓֓֡֓֡֓֡֡֡                                               | <b>-</b>        |                      |            |                                                  |                                       |                         |                              |                 |     | й                                                | 🖁                             |  |  |
| SD:                                                                      |                                        |                                                                                                    | Location.                                                                    |                                                      |                                                  |                                                  | Ö                                                |                                                                                             | lı lin                                                                             | ( l             |                      |            |                                                  | - }                                   |                         | 1                            |                 |     | _                                                | 3                             |  |  |
| ALS Lab Woo                                                              | rk Order # (lab use only): 」 コルス:      | 7A12 1/11                                                                                          | ALS Contact:                                                                 |                                                      | Sampler:                                         |                                                  | NUMBER                                           | 0.Reg153                                                                                    | ۳ ا                                                                                | ⊦∣ <sub>⊶</sub> | -                    | <b>  +</b> |                                                  | 1                                     |                         |                              |                 |     | AMP                                              | SUSPECTED HAZARD (see Special |  |  |
|                                                                          |                                        | 7012 KH                                                                                            | /                                                                            |                                                      |                                                  |                                                  | 1쁳                                               | منۍ ا                                                                                       | 8 3                                                                                | 4               | 무                    | 59         | उ                                                |                                       |                         |                              |                 |     | 3                                                | 🗓                             |  |  |
| ALS Sample #                                                             | Sample Identification                  |                                                                                                    |                                                                              | Date                                                 | Time                                             | Sample Type                                      | 5                                                | 8                                                                                           | 칠                                                                                  | :   a           | =                    | C          | Ч                                                |                                       |                         |                              | <u> </u>        |     | တ်                                               | 🔄                             |  |  |
| (lab use only)                                                           | (This description will a               | ppear on the report)                                                                               |                                                                              | (dd-m-mm-yy)                                         | (hh mm)                                          |                                                  | -                                                |                                                                                             |                                                                                    | - 1             | +•                   | <u> </u>   |                                                  | _                                     | _                       | +                            | ┡─┼             |     | <del></del>                                      | + võ                          |  |  |
|                                                                          | mw113                                  |                                                                                                    |                                                                              | <b>05-004-2</b> 6                                    | 12:15                                            | <u>GN</u>                                        | 31                                               | ×                                                                                           |                                                                                    | ××              | _                    | ×          | X                                                | _                                     | _                       |                              | $\vdash$        |     | <del></del>                                      | ╅┈┤                           |  |  |
|                                                                          | DUP!<br>Trip Blank                     |                                                                                                    | 15-004-20                                                                    |                                                      | GW.                                              | 11                                               | <b>⊦</b> —                                       | $\overline{}$                                                                               | K X                                                                                | X               | X                    | ×          |                                                  |                                       | <b>↓.</b>               | $\sqcup$                     |                 |     | ш                                                |                               |  |  |
|                                                                          | TRIP BLANK                             |                                                                                                    | 15'-04-20                                                                    |                                                      |                                                  | 1                                                |                                                  | K                                                                                           |                                                                                    | ļ               |                      | Į.         |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
|                                                                          | 1,7-1,                                 |                                                                                                    |                                                                              |                                                      |                                                  |                                                  | Γ                                                |                                                                                             | $\top \top$                                                                        | T               | 1                    |            | - 1                                              |                                       |                         |                              | Τl              | l.  |                                                  | 1 1                           |  |  |
|                                                                          |                                        |                                                                                                    |                                                                              |                                                      |                                                  |                                                  |                                                  | 1                                                                                           | <del>-</del>                                                                       |                 |                      | :          |                                                  |                                       |                         | 1                            |                 |     |                                                  | 1                             |  |  |
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| · · ·                                                                    |                                        |                                                                                                    |                                                                              |                                                      |                                                  | <del> </del>                                     | $\vdash$                                         | $\vdash$                                                                                    | <del>-i</del> -                                                                    | +               | +                    | -          |                                                  | $\dashv$                              | <del></del> -           | +                            | $\vdash$        | -+- | <del>                                     </del> | ┿╾╢                           |  |  |
|                                                                          |                                        |                                                                                                    |                                                                              |                                                      |                                                  | !                                                | -                                                | ┷                                                                                           |                                                                                    | +               |                      | $\vdash$   |                                                  | →.                                    |                         | +-                           | $\vdash$        | _   | <del> </del>                                     | +                             |  |  |
|                                                                          |                                        |                                                                                                    |                                                                              |                                                      |                                                  | <u> </u>                                         | ↓                                                | $\sqcup$                                                                                    | $\dashv$                                                                           | _               |                      |            |                                                  | <del></del>                           |                         | +                            | !               |     | —-                                               | <b>∔</b>                      |  |  |
|                                                                          |                                        |                                                                                                    |                                                                              |                                                      | L                                                |                                                  | <u> </u>                                         |                                                                                             |                                                                                    | ┸               |                      |            |                                                  |                                       |                         |                              | $\sqcup$        |     | ↓                                                | Ш                             |  |  |
|                                                                          |                                        |                                                                                                    | <u> </u>                                                                     |                                                      |                                                  |                                                  | _ `                                              |                                                                                             |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  | 1_1                           |  |  |
|                                                                          |                                        |                                                                                                    |                                                                              |                                                      |                                                  | T                                                |                                                  |                                                                                             |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
|                                                                          | <b>†</b>                               |                                                                                                    |                                                                              | 1                                                    |                                                  | <del>                                     </del> | <del> </del>                                     |                                                                                             | _                                                                                  | $\top$          | 1                    |            |                                                  |                                       |                         | $\top$                       | $\vdash$        |     | Γ                                                |                               |  |  |
|                                                                          | <u> </u>                               | add on report by click                                                                             | ing on the drap-d                                                            | men list balme                                       | <del>                                     </del> |                                                  |                                                  |                                                                                             | SAMPL                                                                              | E CON           | OTIC                 | N AS R     | ECEIVED (lab use only)                           |                                       |                         | i)                           |                 |     |                                                  |                               |  |  |
| Drinkln                                                                  | g Water (DW) Samples¹ (ctient use)     | Specify Criteria to add on report by clicking on the drop-down list below<br>(electronic COC only) |                                                                              |                                                      |                                                  | Froze                                            | Frozen SIF Observations Yes No                   |                                                                                             |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
| Are samples taken from a Regulated DW System?                            |                                        |                                                                                                    |                                                                              |                                                      |                                                  |                                                  |                                                  | loe Packs No Cubes Qustody seal intect Yes No No                                            |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
| ( ) ves      NO                                                          |                                        |                                                                                                    |                                                                              |                                                      |                                                  |                                                  | Cooli                                            | ooling Indieded 🔲                                                                           |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
| Are samples for human consumption( use?                                  |                                        |                                                                                                    |                                                                              |                                                      |                                                  |                                                  | INIITMI COOLER TEMPERATUR                        |                                                                                             |                                                                                    |                 |                      | URES       | C                                                | Т                                     |                         | FINAL COOLER TEMPERATURES °C |                 |     |                                                  |                               |  |  |
| YES     NO                                                               |                                        |                                                                                                    |                                                                              |                                                      |                                                  |                                                  |                                                  |                                                                                             |                                                                                    |                 | <u>L.</u>            |            |                                                  |                                       | 89                      |                              |                 |     |                                                  |                               |  |  |
| SHIPMENT RELEASE (client use)                                            |                                        |                                                                                                    | SHITLAL SHIPMENT RECEPTION (lab use only)                                    |                                                      |                                                  |                                                  |                                                  | FINAL SHIPMENT RECEPTION (lab use only)                                                     |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
| Released by:                                                             | Cherry of a Date: 4/16                 | Received by:                                                                                       |                                                                              | Dete:                                                | Time                                             | Time. Received by:                               |                                                  |                                                                                             |                                                                                    |                 | P 10014-15-2020 1345 |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |
| Amy Cascy Colons AMPLING IS FORMATION                                    |                                        |                                                                                                    |                                                                              | WHITE LABORATORY COPY YELLO                          |                                                  |                                                  |                                                  | V - CL ENT COPY                                                                             |                                                                                    |                 |                      |            |                                                  |                                       | 1 3 (045 131)           |                              |                 |     |                                                  |                               |  |  |
| CELEBRA IN BOOK IN                                                       |                                        |                                                                                                    |                                                                              |                                                      |                                                  |                                                  |                                                  |                                                                                             |                                                                                    |                 |                      |            |                                                  |                                       |                         |                              |                 |     |                                                  |                               |  |  |



CH2M HILL CANADA LIMITED

ATTN: AMY CASEY

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 22-APR-20

Report Date: 27-APR-20 12:41 (MT)

Version: FINAL

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2439186
Project P.O. #: NOT SUBMITTED

Job Reference: CE751900 C of C Numbers: 17-798380

Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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Version: FINAL

| Sample Details/Parameters                                              | Result  | Qualifier* | D.L.   | Units    | Extracted | Analyzed  | Batch    |
|------------------------------------------------------------------------|---------|------------|--------|----------|-----------|-----------|----------|
| L2439186-1 MW113 Sampled By: CLIENT on 22-APR-20 @ 10:50 Matrix: WATER |         |            |        |          |           |           |          |
| Physical Tests                                                         |         |            |        |          |           |           |          |
| Conductivity                                                           | 7.79    |            | 0.0030 | mS/cm    |           | 23-APR-20 | R5062200 |
| pH                                                                     | 7.83    |            | 0.10   | pH units |           | 23-APR-20 | R5062200 |
| Anions and Nutrients                                                   |         |            |        |          |           |           |          |
| Chloride (CI)                                                          | 3010    | DLHC       | 10     | mg/L     |           | 23-APR-20 | R5063196 |
| Cyanides                                                               |         |            |        |          |           |           |          |
| Cyanide, Weak Acid Diss                                                | <2.0    |            | 2.0    | ug/L     |           | 22-APR-20 | R5061373 |
| Dissolved Metals                                                       |         |            |        |          |           |           |          |
| Dissolved Mercury Filtration Location                                  | FIELD   |            |        |          |           | 22-APR-20 | R5061197 |
| Dissolved Metals Filtration Location                                   | FIELD   |            |        |          |           | 23-APR-20 | R5061456 |
| Antimony (Sb)-Dissolved                                                | <1.0    | DLHC       | 1.0    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Arsenic (As)-Dissolved                                                 | <1.0    | DLHC       | 1.0    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Barium (Ba)-Dissolved                                                  | 146     | DLHC       | 1.0    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Beryllium (Be)-Dissolved                                               | <1.0    | DLHC       | 1.0    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Boron (B)-Dissolved                                                    | <100    | DLHC       | 100    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Cadmium (Cd)-Dissolved                                                 | 1.82    | DLHC       | 0.050  | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Chromium (Cr)-Dissolved                                                | 5.9     | DLHC       | 5.0    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Cobalt (Co)-Dissolved                                                  | <1.0    | DLHC       | 1.0    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Copper (Cu)-Dissolved                                                  | 2.2     | DLHC       | 2.0    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Lead (Pb)-Dissolved                                                    | <0.50   | DLHC       | 0.50   | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Mercury (Hg)-Dissolved                                                 | <0.0050 |            | 0.0050 | ug/L     | 22-APR-20 | 23-APR-20 | R5061739 |
| Molybdenum (Mo)-Dissolved                                              | 1.61    | DLHC       | 0.50   | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Nickel (Ni)-Dissolved                                                  | <5.0    | DLHC       | 5.0    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Selenium (Se)-Dissolved                                                | 1.38    | DLHC       | 0.50   | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Silver (Ag)-Dissolved                                                  | <0.50   | DLHC       | 0.50   | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Sodium (Na)-Dissolved                                                  | 1470000 | DLHC       | 5000   | ug/L     | 23-APR-20 | 24-APR-20 | R5061916 |
| Thallium (TI)-Dissolved                                                | <0.10   | DLHC       | 0.10   | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Uranium (U)-Dissolved                                                  | 0.77    | DLHC       | 0.10   | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Vanadium (V)-Dissolved                                                 | <5.0    | DLHC       | 5.0    | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Zinc (Zn)-Dissolved                                                    | <10     | DLHC       | 10     | ug/L     | 23-APR-20 | 23-APR-20 | R5061916 |
| Speciated Metals                                                       |         |            |        |          |           |           |          |
| Chromium, Hexavalent                                                   | 5.74    |            | 0.50   | ug/L     |           | 24-APR-20 | R5062619 |
| Volatile Organic Compounds                                             |         |            |        |          |           |           |          |
| Acetone                                                                | <30     |            | 30     | ug/L     |           | 23-APR-20 | R5061334 |
| Benzene                                                                | <0.50   |            | 0.50   | ug/L     |           | 23-APR-20 | R5061334 |
| Bromodichloromethane                                                   | <2.0    |            | 2.0    | ug/L     |           | 23-APR-20 | R5061334 |
| Bromoform                                                              | <5.0    |            | 5.0    | ug/L     |           | 23-APR-20 | R5061334 |
| Bromomethane                                                           | <0.50   |            | 0.50   | ug/L     |           | 23-APR-20 | R5061334 |
| Carbon tetrachloride                                                   | <0.20   |            | 0.20   | ug/L     |           | 23-APR-20 | R5061334 |
| Chlorobenzene                                                          | <0.50   |            | 0.50   | ug/L     |           | 23-APR-20 | R5061334 |
| Dibromochloromethane                                                   | <2.0    |            | 2.0    | ug/L     |           | 23-APR-20 | R5061334 |
| Chloroform                                                             | 4.4     |            | 1.0    | ug/L     |           | 23-APR-20 | R5061334 |
| 1,2-Dibromoethane                                                      | <0.20   |            | 0.20   | ug/L     |           | 23-APR-20 | R5061334 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2439186 CONTD....

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| Sample Details/Parameters                                              | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|------------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2439186-1 MW113 Sampled By: CLIENT on 22-APR-20 @ 10:50 Matrix: WATER |        |            |        |       |           |           |          |
| Volatile Organic Compounds                                             |        |            |        |       |           |           |          |
| 1,2-Dichlorobenzene                                                    | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,3-Dichlorobenzene                                                    | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,4-Dichlorobenzene                                                    | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Dichlorodifluoromethane                                                | <2.0   |            | 2.0    | ug/L  |           | 23-APR-20 | R5061334 |
| 1,1-Dichloroethane                                                     | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,2-Dichloroethane                                                     | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,1-Dichloroethylene                                                   | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| cis-1,2-Dichloroethylene                                               | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| trans-1,2-Dichloroethylene                                             | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Methylene Chloride                                                     | <5.0   |            | 5.0    | ug/L  |           | 23-APR-20 | R5061334 |
| 1,2-Dichloropropane                                                    | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| cis-1,3-Dichloropropene                                                | <0.30  |            | 0.30   | ug/L  |           | 23-APR-20 | R5061334 |
| trans-1,3-Dichloropropene                                              | <0.30  |            | 0.30   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,3-Dichloropropene (cis & trans)                                      | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 |          |
| Ethylbenzene                                                           | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| n-Hexane                                                               | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Methyl Ethyl Ketone                                                    | <20    |            | 20     | ug/L  |           | 23-APR-20 | R5061334 |
| Methyl Isobutyl Ketone                                                 | <20    |            | 20     | ug/L  |           | 23-APR-20 | R5061334 |
| MTBE                                                                   | <2.0   |            | 2.0    | ug/L  |           | 23-APR-20 | R5061334 |
| Styrene                                                                | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,1,1,2-Tetrachloroethane                                              | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,1,2,2-Tetrachloroethane                                              | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Tetrachloroethylene                                                    | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Toluene                                                                | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,1,1-Trichloroethane                                                  | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,1,2-Trichloroethane                                                  | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Trichloroethylene                                                      | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Trichlorofluoromethane                                                 | <5.0   |            | 5.0    | ug/L  |           | 23-APR-20 | R5061334 |
| Vinyl chloride                                                         | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| o-Xylene                                                               | <0.30  |            | 0.30   | ug/L  |           | 23-APR-20 | R5061334 |
| m+p-Xylenes                                                            | <0.40  |            | 0.40   | ug/L  |           | 23-APR-20 | R5061334 |
| Xylenes (Total)                                                        | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 |          |
| Surrogate: 4-Bromofluorobenzene                                        | 99.8   |            | 70-130 | %     |           | 23-APR-20 | R5061334 |
| Surrogate: 1,4-Difluorobenzene                                         | 101.0  |            | 70-130 | %     |           | 23-APR-20 | R5061334 |
| Hydrocarbons                                                           |        |            |        |       |           |           |          |
| F1 (C6-C10)                                                            | <25    |            | 25     | ug/L  |           | 23-APR-20 | R5061334 |
| F1-BTEX                                                                | <25    |            | 25     | ug/L  |           | 23-APR-20 |          |
| F2 (C10-C16)                                                           | <100   |            | 100    | ug/L  | 22-APR-20 | 22-APR-20 | R5061206 |
| F2-Naphth                                                              | <100   |            | 100    | ug/L  |           | 23-APR-20 |          |
| F3 (C16-C34)                                                           | <250   |            | 250    | ug/L  | 22-APR-20 | 22-APR-20 | R5061206 |
| F3-PAH                                                                 | <250   |            | 250    | ug/L  |           | 23-APR-20 |          |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2439186 CONTD.... PAGE 4 of 8 Version: FINAL

| Sample Details/Parameters                                                  | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|----------------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| L2439186-1 MW113 Sampled By: CLIENT on 22-APR-20 @ 10:50 Matrix: WATER     |        |            |        |       |           |           |          |
| Hydrocarbons                                                               |        |            |        |       |           |           |          |
| F4 (C34-C50)                                                               | <250   |            | 250    | ug/L  | 22-APR-20 | 22-APR-20 | R5061206 |
| Total Hydrocarbons (C6-C50)                                                | <370   |            | 370    | ug/L  |           | 23-APR-20 |          |
| Chrom. to baseline at nC50                                                 | YES    |            |        |       | 22-APR-20 | 22-APR-20 | R5061206 |
| Surrogate: 2-Bromobenzotrifluoride                                         | 87.3   |            | 60-140 | %     | 22-APR-20 | 22-APR-20 | R5061206 |
| Surrogate: 3,4-Dichlorotoluene                                             | 87.7   |            | 60-140 | %     |           | 23-APR-20 | R5061334 |
| Polycyclic Aromatic Hydrocarbons                                           |        |            |        |       |           |           |          |
| Acenaphthene                                                               | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Acenaphthylene                                                             | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Anthracene                                                                 | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Benzo(a)anthracene                                                         | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Benzo(a)pyrene                                                             | <0.010 |            | 0.010  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Benzo(b)fluoranthene                                                       | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Benzo(g,h,i)perylene                                                       | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Benzo(k)fluoranthene                                                       | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Chrysene                                                                   | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Dibenzo(ah)anthracene                                                      | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Fluoranthene                                                               | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Fluorene                                                                   | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Indeno(1,2,3-cd)pyrene                                                     | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| 1+2-Methylnaphthalenes                                                     | <0.028 |            | 0.028  | ug/L  | <b></b>   | 23-APR-20 |          |
| 1-Methylnaphthalene                                                        | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| 2-Methylnaphthalene                                                        | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Naphthalene                                                                | <0.050 |            | 0.050  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Phenanthrene                                                               | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Pyrene                                                                     | <0.020 |            | 0.020  | ug/L  | 22-APR-20 | 23-APR-20 | R5061324 |
| Surrogate: d10-Acenaphthene                                                | 102.7  |            | 60-140 | %     | 22-APR-20 | 23-APR-20 | R5061324 |
| Surrogate: d12-Chrysene                                                    | 88.9   |            | 60-140 | %     | 22-APR-20 | 23-APR-20 | R5061324 |
| Surrogate: d8-Naphthalene                                                  | 97.8   |            | 60-140 | %     | 22-APR-20 | 23-APR-20 | R5061324 |
| Surrogate: d10-Phenanthrene                                                | 102.3  |            | 60-140 | %     | 22-APR-20 | 23-APR-20 | R5061324 |
| L2439186-2 TRIP BLANK Sampled By: CLIENT on 22-APR-20 @ 10:50 WATER  WATER |        |            |        |       |           |           |          |
| Volatile Organic Compounds                                                 |        |            |        |       |           |           |          |
| Acetone                                                                    | <30    |            | 30     | ug/L  |           | 23-APR-20 | R5061334 |
| Benzene                                                                    | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Bromodichloromethane                                                       | <2.0   |            | 2.0    | ug/L  |           | 23-APR-20 | R5061334 |
| Bromoform                                                                  | <5.0   |            | 5.0    | ug/L  |           | 23-APR-20 | R5061334 |
| Bromomethane                                                               | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Carbon tetrachloride                                                       | <0.20  |            | 0.20   | ug/L  |           | 23-APR-20 | R5061334 |
| Chlorobenzene                                                              | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Dibromochloromethane                                                       | <2.0   |            | 2.0    | ug/L  |           | 23-APR-20 | R5061334 |
| Chloroform                                                                 | <1.0   |            | 1.0    | ug/L  |           | 23-APR-20 | R5061334 |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Version: FINAL

| Sample Details/Parameters                                                   | Result | Qualifier* | D.L.   | Units | Extracted | Analyzed  | Batch    |
|-----------------------------------------------------------------------------|--------|------------|--------|-------|-----------|-----------|----------|
| .2439186-2 TRIP BLANK Sampled By: CLIENT on 22-APR-20 @ 10:50 Matrix: WATER |        |            |        |       |           |           |          |
| Volatile Organic Compounds                                                  |        |            |        |       |           |           |          |
| 1,2-Dibromoethane                                                           | <0.20  |            | 0.20   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,2-Dichlorobenzene                                                         | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,3-Dichlorobenzene                                                         | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| 1,4-Dichlorobenzene                                                         | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R5061334 |
| Dichlorodifluoromethane                                                     | <2.0   |            | 2.0    | ug/L  |           | 23-APR-20 | R506133  |
| 1,1-Dichloroethane                                                          | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| 1,2-Dichloroethane                                                          | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| 1,1-Dichloroethylene                                                        | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| cis-1,2-Dichloroethylene                                                    | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| trans-1,2-Dichloroethylene                                                  | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| Methylene Chloride                                                          | <5.0   |            | 5.0    | ug/L  |           | 23-APR-20 | R506133  |
| 1,2-Dichloropropane                                                         | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| cis-1,3-Dichloropropene                                                     | <0.30  |            | 0.30   | ug/L  |           | 23-APR-20 | R506133  |
| trans-1,3-Dichloropropene                                                   | <0.30  |            | 0.30   | ug/L  |           | 23-APR-20 | R506133  |
| 1,3-Dichloropropene (cis & trans)                                           | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 |          |
| Ethylbenzene                                                                | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| n-Hexane                                                                    | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| Methyl Ethyl Ketone                                                         | <20    |            | 20     | ug/L  |           | 23-APR-20 | R506133  |
| Methyl Isobutyl Ketone                                                      | <20    |            | 20     | ug/L  |           | 23-APR-20 | R506133  |
| MTBE                                                                        | <2.0   |            | 2.0    | ug/L  |           | 23-APR-20 | R506133  |
| Styrene                                                                     | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| 1,1,1,2-Tetrachloroethane                                                   | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| 1,1,2,2-Tetrachloroethane                                                   | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| Tetrachloroethylene                                                         | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| Toluene                                                                     | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| 1,1,1-Trichloroethane                                                       | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| 1,1,2-Trichloroethane                                                       | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| Trichloroethylene                                                           | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| Trichlorofluoromethane                                                      | <5.0   |            | 5.0    | ug/L  |           | 23-APR-20 | R506133  |
| Vinyl chloride                                                              | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 | R506133  |
| o-Xylene                                                                    | <0.30  |            | 0.30   | ug/L  |           | 23-APR-20 | R506133  |
| m+p-Xylenes                                                                 | <0.40  |            | 0.40   | ug/L  |           | 23-APR-20 | R506133  |
| Xylenes (Total)                                                             | <0.50  |            | 0.50   | ug/L  |           | 23-APR-20 |          |
| Surrogate: 4-Bromofluorobenzene                                             | 99.5   |            | 70-130 | %     |           | 23-APR-20 | R506133  |
| Surrogate: 1,4-Difluorobenzene                                              | 100.2  |            | 70-130 | %     |           | 23-APR-20 | R506133  |
| Hydrocarbons                                                                |        |            |        |       |           |           |          |
| F1 (C6-C10)                                                                 | <25    |            | 25     | ug/L  |           | 23-APR-20 | R506133  |
| F1-BTEX                                                                     | <25    |            | 25     | ug/L  |           | 23-APR-20 |          |
| LI-DIEV                                                                     | 1      | 1          | 60-140 | %     | 1         | 23-APR-20 | R506133  |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

CE751900

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### **Reference Information**

QC Samples with Qualifiers & Comments:

| QC Type Description | Parameter             | Qualifier | Applies to Sample Number(s) |  |
|---------------------|-----------------------|-----------|-----------------------------|--|
| Matrix Spike        | Barium (Ba)-Dissolved | MS-B      | L2439186-1                  |  |
| Matrix Spike        | Boron (B)-Dissolved   | MS-B      | L2439186-1                  |  |
| Matrix Spike        | Sodium (Na)-Dissolved | MS-B      | L2439186-1                  |  |
| Matrix Spike        | Uranium (U)-Dissolved | MS-B      | L2439186-1                  |  |

#### Sample Parameter Qualifier key listed:

| Qualifier | Description                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------|
| DLHC      | Detection Limit Raised: Dilution required due to high concentration of test analyte(s).            |
| MS-B      | Matrix Spike recovery could not be accurately calculated due to high analyte background in sample. |
|           |                                                                                                    |

#### **Test Method References:**

| ALS Test Code | est Code Matrix Test Description |                | Method Reference** |
|---------------|----------------------------------|----------------|--------------------|
| 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).

CR-CR6-IC-R511-WT Water Hex Chrom-O.Reg 153/04 (July 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).

EC-R511-WT Water Conductivity-O.Reg 153/04 (July APHA 2510 B 2011)

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).

EC-SCREEN-WT Water Conductivity Screen (Internal Use APHA 2510 Only)

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

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

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.

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**Reference Information** 

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), 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), 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

EPA 1631E (mod)

(ug/L)

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

FPA 200.8

(ug/L)

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 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).

PH-WT

Water

рΗ

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

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

ater 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), 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-

Water

Sum of Xylene Isomer

Concentrations

CALCULATION

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

<sup>\*\*</sup> ALS test methods may incorporate modifications from specified reference methods to improve performance.

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### **Reference Information**

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:

| <b>Laboratory Definition Code</b> | Laboratory Location                           |
|-----------------------------------|-----------------------------------------------|
| WT                                | ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA |
|                                   |                                               |

#### **Chain of Custody Numbers:**

17-798380

#### **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.



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                                        | Matrix | Reference                 | Result            | Qualifier | Units | RPD | Limit  | Analyzed  |
|-------------------------------------------------------------|--------|---------------------------|-------------------|-----------|-------|-----|--------|-----------|
| CL-IC-N-WT                                                  | Water  |                           |                   |           |       |     |        |           |
| Batch R5063196<br>WG3312570-8 DUP<br>Chloride (CI)          |        | <b>WG3312570-10</b> <0.50 | <b>)</b><br><0.50 | RPD-NA    | mg/L  | N/A | 20     | 23-APR-20 |
| WG3312570-7 LCS<br>Chloride (CI)                            |        |                           | 103.5             |           | %     |     | 90-110 | 23-APR-20 |
| <b>WG3312570-6 MB</b> Chloride (CI)                         |        |                           | <0.50             |           | mg/L  |     | 0.5    | 23-APR-20 |
| <b>WG3312570-9 MS</b> Chloride (CI)                         |        | WG3312570-10              | <b>)</b><br>102.0 |           | %     |     | 75-125 | 23-APR-20 |
| CN-WAD-R511-WT                                              | Water  |                           |                   |           |       |     |        |           |
| Batch R5061373<br>WG3311411-9 DUP<br>Cyanide, Weak Acid Dis | s      | <b>L2438663-1</b> <2.0    | <2.0              | RPD-NA    | ug/L  | N/A | 20     | 22-APR-20 |
| WG3311411-6 LCS<br>Cyanide, Weak Acid Dis                   |        | -                         | 97.3              | 2         | %     |     | 80-120 | 22-APR-20 |
| WG3311411-5 MB<br>Cyanide, Weak Acid Dis                    | s      |                           | <2.0              |           | ug/L  |     | 2      | 22-APR-20 |
| WG3311411-10 MS<br>Cyanide, Weak Acid Dis                   | s      | L2438663-1                | 95.2              |           | %     |     | 75-125 | 22-APR-20 |
| CR-CR6-IC-R511-WT                                           | Water  |                           |                   |           |       |     |        |           |
| Batch R5062619<br>WG3312307-4 DUP<br>Chromium, Hexavalent   |        | <b>WG3312307-3</b> <0.50  | <0.50             | RPD-NA    | ug/L  | N/A | 20     | 24-APR-20 |
| WG3312307-2 LCS<br>Chromium, Hexavalent                     |        |                           | 101.2             |           | %     |     | 80-120 | 24-APR-20 |
| WG3312307-1 MB<br>Chromium, Hexavalent                      |        | W00040007.0               | <0.50             |           | ug/L  |     | 0.5    | 24-APR-20 |
| WG3312307-5 MS<br>Chromium, Hexavalent                      |        | WG3312307-3               | 98.4              |           | %     |     | 70-130 | 24-APR-20 |
| EC-R511-WT                                                  | Water  |                           |                   |           |       |     |        |           |
| Batch R5062200<br>WG3312106-4 DUP<br>Conductivity           |        | <b>WG3312106-3</b> 1.01   | 1.01              |           | mS/cm | 0.0 | 10     | 23-APR-20 |
| WG3312106-2 LCS<br>Conductivity                             |        |                           | 99.4              |           | %     |     | 90-110 | 23-APR-20 |
| WG3312106-1 MB<br>Conductivity                              |        |                           | <0.0030           |           | mS/cm |     | 0.003  | 23-APR-20 |
| F1-HS-511-WT                                                | Water  |                           |                   |           |       |     |        |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                     | Matrix         | Reference                  | Result   | Qualifier | Units     | RPD  | Limit  | Analyzed     |
|------------------------------------------|----------------|----------------------------|----------|-----------|-----------|------|--------|--------------|
| F1-HS-511-WT                             | Water          |                            |          |           |           |      |        |              |
| Batch R506133                            |                |                            |          |           |           |      |        |              |
| WG3311300-4 DUF                          |                | WG3311300-3                |          |           |           |      |        |              |
| F1 (C6-C10)                              |                | <25                        | <25      | RPD-NA    | ug/L      | N/A  | 30     | 23-APR-20    |
| WG3311300-1 LCS                          |                |                            |          |           |           |      |        |              |
| F1 (C6-C10)                              |                |                            | 92.7     |           | %         |      | 80-120 | 23-APR-20    |
| <b>WG3311300-2 MB</b><br>F1 (C6-C10)     |                |                            | <25      |           | ug/L      |      | 25     | 00 APP 00    |
| Surrogate: 3,4-Dichlor                   | rotoluene      |                            | 82.1     |           | ug/∟<br>% |      | 60-140 | 23-APR-20    |
| _                                        | otolderie      | W02244200 2                |          |           | /0        |      | 00-140 | 23-APR-20    |
| <b>WG3311300-5 MS</b><br>F1 (C6-C10)     |                | WG3311300-3                | 65.2     |           | %         |      | 60-140 | 23-APR-20    |
| F2-F4-511-WT                             | Water          |                            |          |           |           |      |        |              |
| Batch R506120                            |                |                            |          |           |           |      |        |              |
| WG3311344-2 LCS                          |                |                            |          |           |           |      |        |              |
| F2 (C10-C16)                             |                |                            | 93.9     |           | %         |      | 70-130 | 22-APR-20    |
| F3 (C16-C34)                             |                |                            | 96.6     |           | %         |      | 70-130 | 22-APR-20    |
| F4 (C34-C50)                             |                |                            | 94.4     |           | %         |      | 70-130 | 22-APR-20    |
| WG3311344-1 MB                           |                |                            | 100      |           |           |      | 400    |              |
| F2 (C10-C16)                             |                |                            | <100     |           | ug/L      |      | 100    | 22-APR-20    |
| F3 (C16-C34)                             |                |                            | <250     |           | ug/L      |      | 250    | 22-APR-20    |
| F4 (C34-C50)                             |                |                            | <250     |           | ug/L      |      | 250    | 22-APR-20    |
| Surrogate: 2-Bromobe                     | enzotiliuoride |                            | 69.3     |           | %         |      | 60-140 | 22-APR-20    |
| HG-D-UG/L-CVAA-WT                        | Water          |                            |          |           |           |      |        |              |
| Batch R506173                            |                |                            |          |           |           |      |        |              |
| WG3311915-3 DUF<br>Mercury (Hg)-Dissolve |                | <b>L2439186-1</b> < 0.0050 | < 0.0050 | RPD-NA    | ug/L      | N/A  | 20     | 23-APR-20    |
| WG3311915-2 LCS                          |                |                            |          | 10 5 10 1 | 3.        | 14// | 20     | 20 / 11 / 20 |
| Mercury (Hg)-Dissolve                    |                |                            | 101.0    |           | %         |      | 80-120 | 23-APR-20    |
| WG3311915-1 MB                           |                |                            |          |           |           |      |        |              |
| Mercury (Hg)-Dissolve                    | ed             |                            | <0.0050  |           | ug/L      |      | 0.005  | 23-APR-20    |
| WG3311915-4 MS                           |                | L2439326-1                 | 104 7    |           | 0/        |      |        |              |
| Mercury (Hg)-Dissolve                    | ea             |                            | 101.7    |           | %         |      | 70-130 | 23-APR-20    |
| MET-D-UG/L-MS-WT                         | Water          |                            |          |           |           |      |        |              |
| Batch R506191                            |                | W02240047.0                |          |           |           |      |        |              |
| WG3312247-4 DUF<br>Antimony (Sb)-Dissolv |                | <b>WG3312247-3</b> 0.12    | 0.12     |           | ug/L      | 0.0  | 20     | 23-APR-20    |
| Arsenic (As)-Dissolve                    | d              | 0.92                       | 0.89     |           | ug/L      | 3.0  | 20     | 23-APR-20    |
| Barium (Ba)-Dissolve                     |                | 282                        | 280      |           | ug/L      | 0.5  | 20     | 23-APR-20    |
|                                          |                |                            |          |           |           |      |        | -            |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                        | Matrix    | Reference    | Result | Qualifier | Units | RPD          | Limit  | Analyzed   |
|---------------------------------------------|-----------|--------------|--------|-----------|-------|--------------|--------|------------|
| MET-D-UG/L-MS-WT                            | Water     |              |        |           |       |              |        |            |
| Batch R50619                                | 916       |              |        |           |       |              |        |            |
| WG3312247-4 DL                              |           | WG3312247-   |        |           | ug/l  | <b>N</b> 1/A | 00     | 00 4 DD 00 |
| Beryllium (Be)-Disso<br>Boron (B)-Dissolved |           | <0.10<br>162 | <0.10  | RPD-NA    | ug/L  | N/A          | 20     | 23-APR-20  |
| Cadmium (Cd)-Diss                           |           | 0.0071       | 166    |           | ug/L  | 2.5          | 20     | 23-APR-20  |
| ` ,                                         |           |              | 0.0079 | 555 114   | ug/L  | 11           | 20     | 23-APR-20  |
| Chromium (Cr)-Diss                          |           | <0.50        | <0.50  | RPD-NA    | ug/L  | N/A          | 20     | 23-APR-20  |
| Cobalt (Co)-Dissolve                        |           | <0.10        | <0.10  | RPD-NA    | ug/L  | N/A          | 20     | 23-APR-20  |
| Copper (Cu)-Dissolv                         |           | 1.95         | 1.90   | 555       | ug/L  | 2.3          | 20     | 23-APR-20  |
| Lead (Pb)-Dissolved                         |           | <0.050       | <0.050 | RPD-NA    | ug/L  | N/A          | 20     | 23-APR-20  |
| Molybdenum (Mo)-D                           |           | 3.85         | 3.88   |           | ug/L  | 0.8          | 20     | 23-APR-20  |
| Nickel (Ni)-Dissolve                        |           | 0.67         | 0.67   |           | ug/L  | 0.6          | 20     | 23-APR-20  |
| Selenium (Se)-Disso                         |           | 0.954        | 0.930  |           | ug/L  | 2.5          | 20     | 23-APR-20  |
| Silver (Ag)-Dissolve                        |           | <0.050       | <0.050 | RPD-NA    | ug/L  | N/A          | 20     | 23-APR-20  |
| Sodium (Na)-Dissol                          |           | 78600        | 77100  |           | ug/L  | 1.9          | 20     | 23-APR-20  |
| Thallium (TI)-Dissolv                       | ved       | 0.012        | 0.011  |           | ug/L  | 8.1          | 20     | 23-APR-20  |
| Uranium (U)-Dissolv                         | ved .     | 3.56         | 3.49   |           | ug/L  | 2.1          | 20     | 23-APR-20  |
| Vanadium (V)-Disso                          | lved      | 2.80         | 2.84   |           | ug/L  | 1.2          | 20     | 23-APR-20  |
| Zinc (Zn)-Dissolved                         |           | 1.6          | 1.6    |           | ug/L  | 1.1          | 20     | 23-APR-20  |
| WG3312247-2 LC<br>Antimony (Sb)-Disso       |           |              | 105.0  |           | %     |              | 80-120 | 23-APR-20  |
| Arsenic (As)-Dissolv                        | ved .     |              | 106.8  |           | %     |              | 80-120 | 23-APR-20  |
| Barium (Ba)-Dissolv                         | red       |              | 104.1  |           | %     |              | 80-120 | 23-APR-20  |
| Beryllium (Be)-Disso                        | olved     |              | 100.7  |           | %     |              | 80-120 | 23-APR-20  |
| Boron (B)-Dissolved                         | I         |              | 97.6   |           | %     |              | 80-120 | 23-APR-20  |
| Cadmium (Cd)-Diss                           | olved     |              | 109.4  |           | %     |              | 80-120 | 23-APR-20  |
| Chromium (Cr)-Diss                          | solved    |              | 105.6  |           | %     |              | 80-120 | 23-APR-20  |
| Cobalt (Co)-Dissolve                        | ed        |              | 103.1  |           | %     |              | 80-120 | 23-APR-20  |
| Copper (Cu)-Dissolv                         | /ed       |              | 106.5  |           | %     |              | 80-120 | 23-APR-20  |
| Lead (Pb)-Dissolved                         | i         |              | 106.5  |           | %     |              | 80-120 | 23-APR-20  |
| Molybdenum (Mo)-D                           | Dissolved |              | 97.9   |           | %     |              | 80-120 | 23-APR-20  |
| Nickel (Ni)-Dissolve                        | d         |              | 105.5  |           | %     |              | 80-120 | 23-APR-20  |
| Selenium (Se)-Disso                         | olved     |              | 105.7  |           | %     |              | 80-120 | 23-APR-20  |
| Silver (Ag)-Dissolve                        | d         |              | 104.8  |           | %     |              | 80-120 | 23-APR-20  |
| Sodium (Na)-Dissol                          | ved       |              | 108.8  |           | %     |              | 80-120 | 23-APR-20  |
| Thallium (TI)-Dissolv                       | ved       |              | 104.0  |           | %     |              | 80-120 | 23-APR-20  |
| 1                                           |           |              |        |           |       |              |        |            |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                       | Matrix  | Reference   | Result         | Qualifier | Units | RPD | Limit  | Analyzed  |
|--------------------------------------------|---------|-------------|----------------|-----------|-------|-----|--------|-----------|
| MET-D-UG/L-MS-WT                           | Water   |             |                |           |       |     |        |           |
| Batch R506191                              | 16      |             |                |           |       |     |        |           |
| WG3312247-2 LCS<br>Uranium (U)-Dissolve    |         |             | 10F F          |           | %     |     | 00.400 | 00 ABB 00 |
| Vanadium (V)-Dissolve                      |         |             | 105.5<br>106.6 |           | %     |     | 80-120 | 23-APR-20 |
| Zinc (Zn)-Dissolved                        | ·cu     |             | 106.9          |           | %     |     | 80-120 | 23-APR-20 |
| WG3312247-1 MB                             |         |             | 100.9          |           | 70    |     | 80-120 | 23-APR-20 |
| Antimony (Sb)-Dissolv                      | ved     |             | <0.10          |           | ug/L  |     | 0.1    | 23-APR-20 |
| Arsenic (As)-Dissolve                      | d       |             | <0.10          |           | ug/L  |     | 0.1    | 23-APR-20 |
| Barium (Ba)-Dissolve                       | d       |             | <0.10          |           | ug/L  |     | 0.1    | 23-APR-20 |
| Beryllium (Be)-Dissolv                     | /ed     |             | <0.10          |           | ug/L  |     | 0.1    | 23-APR-20 |
| Boron (B)-Dissolved                        |         |             | <10            |           | ug/L  |     | 10     | 23-APR-20 |
| Cadmium (Cd)-Dissol                        | ved     |             | <0.0050        |           | ug/L  |     | 0.005  | 23-APR-20 |
| Chromium (Cr)-Disso                        | lved    |             | <0.50          |           | ug/L  |     | 0.5    | 23-APR-20 |
| Cobalt (Co)-Dissolved                      | d       |             | <0.10          |           | ug/L  |     | 0.1    | 23-APR-20 |
| Copper (Cu)-Dissolve                       | ed      |             | <0.20          |           | ug/L  |     | 0.2    | 23-APR-20 |
| Lead (Pb)-Dissolved                        |         |             | < 0.050        |           | ug/L  |     | 0.05   | 23-APR-20 |
| Molybdenum (Mo)-Dis                        | ssolved |             | < 0.050        |           | ug/L  |     | 0.05   | 23-APR-20 |
| Nickel (Ni)-Dissolved                      |         |             | <0.50          |           | ug/L  |     | 0.5    | 23-APR-20 |
| Selenium (Se)-Dissolv                      | ved     |             | <0.050         |           | ug/L  |     | 0.05   | 23-APR-20 |
| Silver (Ag)-Dissolved                      |         |             | <0.050         |           | ug/L  |     | 0.05   | 23-APR-20 |
| Sodium (Na)-Dissolve                       | ed      |             | <50            |           | ug/L  |     | 50     | 23-APR-20 |
| Thallium (TI)-Dissolve                     | ed      |             | <0.010         |           | ug/L  |     | 0.01   | 23-APR-20 |
| Uranium (U)-Dissolve                       | d       |             | <0.010         |           | ug/L  |     | 0.01   | 23-APR-20 |
| Vanadium (V)-Dissolv                       | red .   |             | <0.50          |           | ug/L  |     | 0.5    | 23-APR-20 |
| Zinc (Zn)-Dissolved                        |         |             | <1.0           |           | ug/L  |     | 1      | 23-APR-20 |
| WG3312247-5 MS                             |         | WG3312247-3 | 0.4.0          |           | 0.4   |     |        |           |
| Antimony (Sb)-Dissolv                      |         |             | 94.3           |           | %     |     | 70-130 | 23-APR-20 |
| Arsenic (As)-Dissolve                      |         |             | 105.3          | NO D      | %     |     | 70-130 | 23-APR-20 |
| Barium (Ba)-Dissolve                       |         |             | N/A            | MS-B      | %     |     | -      | 23-APR-20 |
| Beryllium (Be)-Dissolv                     | /eu     |             | 93.9<br>N/A    | MC D      | %     |     | 70-130 | 23-APR-20 |
| Boron (B)-Dissolved                        | l v a d |             | N/A            | MS-B      | %     |     | -      | 23-APR-20 |
| Cadmium (Cd)-Dissol<br>Chromium (Cr)-Disso |         |             | 96.3<br>94.5   |           | %     |     | 70-130 | 23-APR-20 |
| Cobalt (Co)-Dissolved                      |         |             | 94.5<br>87.4   |           | %     |     | 70-130 | 23-APR-20 |
| Copper (Cu)-Dissolve                       |         |             | 84.9           |           | %     |     | 70-130 | 23-APR-20 |
| Lead (Pb)-Dissolved                        | ·u      |             | 87.9           |           | %     |     | 70-130 | 23-APR-20 |
| Leau (1 b)-Dissolveu                       |         |             | UI.3           |           | 70    |     | 70-130 | 23-APR-20 |



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CH2M HILL CANADA LIMITED Client:

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: AMY CASEY

| Test                                  | Matrix  | Reference  | Result           | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------|---------|------------|------------------|-----------|-------|-----|--------|-----------|
| MET-D-UG/L-MS-WT                      | Water   |            |                  |           |       |     |        |           |
| Batch R506191                         | 6       |            |                  |           |       |     |        |           |
| WG3312247-5 MS<br>Molybdenum (Mo)-Dis | ssolved | WG3312247- | <b>3</b><br>94.6 |           | %     |     | 70-130 | 23-APR-20 |
| Nickel (Ni)-Dissolved                 |         |            | 86.1             |           | %     |     | 70-130 | 23-APR-20 |
| Selenium (Se)-Dissolv                 | /ed     |            | 115.8            |           | %     |     | 70-130 | 23-APR-20 |
| Silver (Ag)-Dissolved                 |         |            | 90.1             |           | %     |     | 70-130 | 23-APR-20 |
| Sodium (Na)-Dissolve                  | ed      |            | N/A              | MS-B      | %     |     | -      | 23-APR-20 |
| Thallium (TI)-Dissolve                | d       |            | 88.6             |           | %     |     | 70-130 | 23-APR-20 |
| Uranium (U)-Dissolve                  | d       |            | N/A              | MS-B      | %     |     | -      | 23-APR-20 |
| Vanadium (V)-Dissolv                  | red     |            | 98.2             |           | %     |     | 70-130 | 23-APR-20 |
| Zinc (Zn)-Dissolved                   |         |            | 93.4             |           | %     |     | 70-130 | 23-APR-20 |
| PAH-511-WT                            | Water   |            |                  |           |       |     |        |           |
| Batch R506132                         | 24      |            |                  |           |       |     |        |           |
| WG3311344-2 LCS                       |         |            |                  |           |       |     |        |           |
| 1-Methylnaphthalene                   |         |            | 93.5             |           | %     |     | 50-140 | 23-APR-20 |
| 2-Methylnaphthalene                   |         |            | 90.8             |           | %     |     | 50-140 | 23-APR-20 |
| Acenaphthene                          |         |            | 100.6            |           | %     |     | 50-140 | 23-APR-20 |
| Acenaphthylene                        |         |            | 102.4            |           | %     |     | 50-140 | 23-APR-20 |
| Anthracene                            |         |            | 98.6             |           | %     |     | 50-140 | 23-APR-20 |
| Benzo(a)anthracene                    |         |            | 116.7            |           | %     |     | 50-140 | 23-APR-20 |
| Benzo(a)pyrene                        |         |            | 101.6            |           | %     |     | 50-140 | 23-APR-20 |
| Benzo(b)fluoranthene                  |         |            | 98.9             |           | %     |     | 50-140 | 23-APR-20 |
| Benzo(g,h,i)perylene                  |         |            | 107.8            |           | %     |     | 50-140 | 23-APR-20 |
| Benzo(k)fluoranthene                  |         |            | 100.8            |           | %     |     | 50-140 | 23-APR-20 |
| Chrysene                              |         |            | 112.7            |           | %     |     | 50-140 | 23-APR-20 |
| Dibenzo(ah)anthracer                  | ne      |            | 106.6            |           | %     |     | 50-140 | 23-APR-20 |
| Fluoranthene                          |         |            | 107.1            |           | %     |     | 50-140 | 23-APR-20 |
| Fluorene                              |         |            | 105.2            |           | %     |     | 50-140 | 23-APR-20 |
| Indeno(1,2,3-cd)pyren                 | ne      |            | 128.6            |           | %     |     | 50-140 | 23-APR-20 |
| Naphthalene                           |         |            | 98.5             |           | %     |     | 50-140 | 23-APR-20 |
| Phenanthrene                          |         |            | 109.2            |           | %     |     | 50-140 | 23-APR-20 |
| Pyrene                                |         |            | 107.8            |           | %     |     | 50-140 | 23-APR-20 |
| WG3311344-1 MB<br>1-Methylnaphthalene |         |            | <0.020           |           | ug/L  |     | 0.02   | 23-APR-20 |
| 2-Methylnaphthalene                   |         |            | <0.020           |           | ug/L  |     | 0.02   | 23-APR-20 |
| Acenaphthene                          |         |            | <0.020           |           | ug/L  |     | 0.02   | 23-APR-20 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                | Matrix          | Reference                  | Result           | Qualifier | Units    | RPD  | Limit        | Analyzed   |
|-------------------------------------|-----------------|----------------------------|------------------|-----------|----------|------|--------------|------------|
| PAH-511-WT                          | Water           |                            |                  |           |          |      |              |            |
| Batch R50613                        | 24              |                            |                  |           |          |      |              |            |
| WG3311344-1 MB                      |                 |                            | <0.020           |           | /1       |      | 0.02         |            |
| Acenaphthylene<br>Anthracene        |                 |                            | <0.020           |           | ug/L     |      | 0.02         | 23-APR-20  |
|                                     |                 |                            | <0.020           |           | ug/L     |      | 0.02         | 23-APR-20  |
| Benzo(a)anthracene                  |                 |                            | <0.020           |           | ug/L     |      |              | 23-APR-20  |
| Benzo(a)pyrene                      |                 |                            |                  |           | ug/L     |      | 0.01         | 23-APR-20  |
| Benzo(b)fluoranthene                | ;               |                            | <0.020           |           | ug/L     |      | 0.02<br>0.02 | 23-APR-20  |
| Benzo(g,h,i)perylene                |                 |                            | <0.020<br><0.020 |           | ug/L     |      | 0.02         | 23-APR-20  |
| Benzo(k)fluoranthene                | •               |                            | <0.020           |           | ug/L     |      | 0.02         | 23-APR-20  |
| Chrysene                            |                 |                            |                  |           | ug/L     |      |              | 23-APR-20  |
| Dibenzo(ah)anthrace<br>Fluoranthene | II <del>C</del> |                            | <0.020<br><0.020 |           | ug/L     |      | 0.02<br>0.02 | 23-APR-20  |
| Fluorantnene                        |                 |                            |                  |           | ug/L     |      | 0.02         | 23-APR-20  |
|                                     |                 |                            | <0.020           |           | ug/L     |      | 0.02         | 23-APR-20  |
| Indeno(1,2,3-cd)pyre                | ne              |                            | <0.020           |           | ug/L     |      |              | 23-APR-20  |
| Naphthalene<br>Phenanthrene         |                 |                            | <0.050<br><0.020 |           | ug/L     |      | 0.05         | 23-APR-20  |
|                                     |                 |                            | <0.020           |           | ug/L     |      | 0.02<br>0.02 | 23-APR-20  |
| Pyrene                              | alono           |                            |                  |           | ug/L     |      |              | 23-APR-20  |
| Surrogate: d8-Naphth                |                 |                            | 95.4             |           | %        |      | 60-140       | 23-APR-20  |
| Surrogate: d10-Phena                |                 |                            | 106.4            |           |          |      | 60-140       | 23-APR-20  |
| Surrogate: d12-Chrys                |                 |                            | 102.2            |           | %        |      | 60-140       | 23-APR-20  |
| Surrogate: d10-Acena                | apntnene        |                            | 99.3             |           | %        |      | 60-140       | 23-APR-20  |
| PH-WT                               | Water           |                            |                  |           |          |      |              |            |
| Batch R506220                       |                 |                            |                  |           |          |      |              |            |
| <b>WG3312106-4 DU</b> I<br>pH       | •               | <b>WG3312106-3</b><br>7.55 | <b>7</b> .59     | J         | pH units | 0.04 | 0.2          | 23-APR-20  |
| WG3312106-2 LCS                     | 2               | . 100                      |                  | Ü         | F        | 0.04 | 0.2          | 20 AI 1(20 |
| pH                                  | ,               |                            | 6.99             |           | pH units |      | 6.9-7.1      | 23-APR-20  |
| VOC-511-HS-WT                       | Water           |                            |                  |           |          |      |              |            |
| Batch R506133                       | 34              |                            |                  |           |          |      |              |            |
| WG3311300-4 DUI                     |                 | WG3311300-3                |                  |           |          |      |              |            |
| 1,1,1,2-Tetrachloroet               |                 | <0.50                      | <0.50            | RPD-NA    | ug/L     | N/A  | 30           | 23-APR-20  |
| 1,1,2,2-Tetrachloroet               | hane            | <0.50                      | <0.50            | RPD-NA    | ug/L     | N/A  | 30           | 23-APR-20  |
| 1,1,1-Trichloroethane               | •               | <0.50                      | <0.50            | RPD-NA    | ug/L     | N/A  | 30           | 23-APR-20  |
| 1,1,2-Trichloroethane               | •               | <0.50                      | <0.50            | RPD-NA    | ug/L     | N/A  | 30           | 23-APR-20  |
| 1,1-Dichloroethane                  |                 | <0.50                      | <0.50            | RPD-NA    | ug/L     | N/A  | 30           | 23-APR-20  |
| 1,1-Dichloroethylene                |                 | <0.50                      | <0.50            | RPD-NA    | ug/L     | N/A  | 30           | 23-APR-20  |
|                                     |                 |                            |                  |           |          |      |              |            |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                      | Matrix | Reference  | Result | Qualifier | Units | RPD         | Limit | Analyzed  |
|---------------------------|--------|------------|--------|-----------|-------|-------------|-------|-----------|
| VOC-511-HS-WT             | Water  |            |        |           |       |             |       |           |
| Batch R5061334            |        |            |        |           |       |             |       |           |
| WG3311300-4 DUP           |        | WG3311300- |        | 000 114   | /1    | <b>N1/A</b> | 00    |           |
| 1,2-Dibromoethane         |        | <0.20      | <0.20  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| 1,2-Dichlorobenzene       |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| 1,2-Dichloroethane        |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| 1,2-Dichloropropane       |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| 1,3-Dichlorobenzene       |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| 1,4-Dichlorobenzene       |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Acetone                   |        | <30        | <30    | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Benzene                   |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Bromodichloromethane      |        | <2.0       | <2.0   | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Bromoform                 |        | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Bromomethane              |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Carbon tetrachloride      |        | <0.20      | <0.20  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Chlorobenzene             |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Chloroform                |        | <1.0       | <1.0   | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| cis-1,2-Dichloroethylene  |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| cis-1,3-Dichloropropene   |        | <0.30      | <0.30  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Dibromochloromethane      |        | <2.0       | <2.0   | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Dichlorodifluoromethane   | )      | <2.0       | <2.0   | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Ethylbenzene              |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| n-Hexane                  |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| m+p-Xylenes               |        | <0.40      | <0.40  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Methyl Ethyl Ketone       |        | <20        | <20    | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Methyl Isobutyl Ketone    |        | <20        | <20    | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Methylene Chloride        |        | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| MTBE                      |        | <2.0       | <2.0   | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| o-Xylene                  |        | <0.30      | < 0.30 | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Styrene                   |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Tetrachloroethylene       |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Toluene                   |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| trans-1,2-Dichloroethyler | ne     | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| trans-1,3-Dichloroproper  | ne     | <0.30      | <0.30  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Trichloroethylene         |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A         | 30    | 23-APR-20 |
| Trichlorofluoromethane    |        | <5.0       | <5.0   |           | ug/L  |             |       | 23-APR-20 |
|                           |        |            |        |           |       |             |       |           |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

|                                             |       | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------------|-------|------------|--------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                               | Water |            |        |           |       |     |        |           |
| Batch R5061334                              |       |            |        |           |       |     |        |           |
| WG3311300-4 DUP                             |       | WG3311300- |        |           |       |     |        |           |
| Trichlorofluoromethane                      |       | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A | 30     | 23-APR-20 |
| Vinyl chloride                              |       | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A | 30     | 23-APR-20 |
| WG3311300-1 LCS<br>1,1,1,2-Tetrachloroethan | ne    |            | 89.9   |           | %     |     | 70-130 | 23-APR-20 |
| 1,1,2,2-Tetrachloroethan                    | ne    |            | 91.4   |           | %     |     | 70-130 | 23-APR-20 |
| 1,1,1-Trichloroethane                       |       |            | 92.9   |           | %     |     | 70-130 | 23-APR-20 |
| 1,1,2-Trichloroethane                       |       |            | 89.3   |           | %     |     | 70-130 | 23-APR-20 |
| 1,1-Dichloroethane                          |       |            | 91.5   |           | %     |     | 70-130 | 23-APR-20 |
| 1,1-Dichloroethylene                        |       |            | 87.9   |           | %     |     | 70-130 | 23-APR-20 |
| 1,2-Dibromoethane                           |       |            | 87.6   |           | %     |     | 70-130 | 23-APR-20 |
| 1,2-Dichlorobenzene                         |       |            | 89.0   |           | %     |     | 70-130 | 23-APR-20 |
| 1,2-Dichloroethane                          |       |            | 86.3   |           | %     |     | 70-130 | 23-APR-20 |
| 1,2-Dichloropropane                         |       |            | 92.3   |           | %     |     | 70-130 | 23-APR-20 |
| 1,3-Dichlorobenzene                         |       |            | 87.3   |           | %     |     | 70-130 | 23-APR-20 |
| 1,4-Dichlorobenzene                         |       |            | 88.7   |           | %     |     | 70-130 | 23-APR-20 |
| Acetone                                     |       |            | 89.5   |           | %     |     | 60-140 | 23-APR-20 |
| Benzene                                     |       |            | 93.5   |           | %     |     | 70-130 | 23-APR-20 |
| Bromodichloromethane                        |       |            | 96.7   |           | %     |     | 70-130 | 23-APR-20 |
| Bromoform                                   |       |            | 92.4   |           | %     |     | 70-130 | 23-APR-20 |
| Bromomethane                                |       |            | 109.9  |           | %     |     | 60-140 | 23-APR-20 |
| Carbon tetrachloride                        |       |            | 93.2   |           | %     |     | 70-130 | 23-APR-20 |
| Chlorobenzene                               |       |            | 90.3   |           | %     |     | 70-130 | 23-APR-20 |
| Chloroform                                  |       |            | 93.6   |           | %     |     | 70-130 | 23-APR-20 |
| cis-1,2-Dichloroethylene                    |       |            | 86.4   |           | %     |     | 70-130 | 23-APR-20 |
| cis-1,3-Dichloropropene                     |       |            | 84.4   |           | %     |     | 70-130 | 23-APR-20 |
| Dibromochloromethane                        |       |            | 87.7   |           | %     |     | 70-130 | 23-APR-20 |
| Dichlorodifluoromethane                     | •     |            | 88.7   |           | %     |     | 50-140 | 23-APR-20 |
| Ethylbenzene                                |       |            | 88.1   |           | %     |     | 70-130 | 23-APR-20 |
| n-Hexane                                    |       |            | 91.4   |           | %     |     | 70-130 | 23-APR-20 |
| m+p-Xylenes                                 |       |            | 86.6   |           | %     |     | 70-130 | 23-APR-20 |
| Methyl Ethyl Ketone                         |       |            | 96.6   |           | %     |     | 60-140 | 23-APR-20 |
| Methyl Isobutyl Ketone                      |       |            | 87.5   |           | %     |     | 60-140 | 23-APR-20 |
| Methylene Chloride                          |       |            | 90.0   |           | %     |     | 70-130 | 23-APR-20 |
| MTBE                                        |       |            | 93.3   |           | %     |     | 70-130 | 23-APR-20 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| Test                                        | Matrix | Reference | Result       | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------------------------|--------|-----------|--------------|-----------|-------|-----|--------|-----------|
| VOC-511-HS-WT                               | Water  |           |              |           |       |     |        |           |
| Batch R5061334                              |        |           |              |           |       |     |        |           |
| WG3311300-1 LCS                             |        |           | 00.4         |           | 0/    |     | 70.400 |           |
| o-Xylene                                    |        |           | 96.1<br>89.9 |           | %     |     | 70-130 | 23-APR-20 |
| Styrene                                     |        |           |              |           |       |     | 70-130 | 23-APR-20 |
| Tetrachloroethylene                         |        |           | 89.7         |           | %     |     | 70-130 | 23-APR-20 |
| Toluene                                     | _      |           | 88.7         |           | %     |     | 70-130 | 23-APR-20 |
| trans-1,2-Dichloroethylen                   |        |           | 88.4         |           | %     |     | 70-130 | 23-APR-20 |
| trans-1,3-Dichloropropend                   | е      |           | 83.1         |           | %     |     | 70-130 | 23-APR-20 |
| Trichloroethylene                           |        |           | 93.5         |           | %     |     | 70-130 | 23-APR-20 |
| Trichlorofluoromethane                      |        |           | 86.2         |           | %     |     | 60-140 | 23-APR-20 |
| Vinyl chloride                              |        |           | 100.9        |           | %     |     | 60-140 | 23-APR-20 |
| WG3311300-2 MB<br>1,1,1,2-Tetrachloroethane | 9      |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,1,2,2-Tetrachloroethane                   |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,1,1-Trichloroethane                       |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,1,2-Trichloroethane                       |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,1-Dichloroethane                          |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,1-Dichloroethylene                        |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,2-Dibromoethane                           |        |           | <0.20        |           | ug/L  |     | 0.2    | 23-APR-20 |
| 1,2-Dichlorobenzene                         |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,2-Dichloroethane                          |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,2-Dichloropropane                         |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,3-Dichlorobenzene                         |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| 1,4-Dichlorobenzene                         |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| Acetone                                     |        |           | <30          |           | ug/L  |     | 30     | 23-APR-20 |
| Benzene                                     |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| Bromodichloromethane                        |        |           | <2.0         |           | ug/L  |     | 2      | 23-APR-20 |
| Bromoform                                   |        |           | <5.0         |           | ug/L  |     | 5      | 23-APR-20 |
| Bromomethane                                |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| Carbon tetrachloride                        |        |           | <0.20        |           | ug/L  |     | 0.2    | 23-APR-20 |
| Chlorobenzene                               |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| Chloroform                                  |        |           | <1.0         |           | ug/L  |     | 1      | 23-APR-20 |
| cis-1,2-Dichloroethylene                    |        |           | <0.50        |           | ug/L  |     | 0.5    | 23-APR-20 |
| cis-1,3-Dichloropropene                     |        |           | <0.30        |           | ug/L  |     | 0.3    | 23-APR-20 |
| Dibromochloromethane                        |        |           | <2.0         |           | ug/L  |     | 2      | 23-APR-20 |
| Dichlorodifluoromethane                     |        |           | <2.0         |           | ug/L  |     | 2      | 23-APR-20 |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| VOC-511-HS-WT         Water           Batch         R5061334           WG3311300-2         MB           Ethylbenzene         <0.50 | ) |
|------------------------------------------------------------------------------------------------------------------------------------|---|
| WG3311300-2 MB                                                                                                                     | ) |
|                                                                                                                                    | ) |
| , 2011112                                                                                                                          | ) |
| n-Hexane <0.50 ug/L 0.5 23-APR-2                                                                                                   | ) |
| m+p-Xylenes <0.40 ug/L 0.4 23-APR-2                                                                                                |   |
| Methyl Ethyl Ketone <20 ug/L 20 23-APR-2                                                                                           | ) |
| Methyl Isobutyl Ketone <20 ug/L 20 23-APR-2                                                                                        |   |
| Methylene Chloride <5.0 ug/L 5 23-APR-2                                                                                            |   |
| MTBE <2.0 ug/L 2 23-APR-2                                                                                                          |   |
| o-Xylene <0.30 ug/L 0.3 23-APR-2                                                                                                   | ) |
| Styrene <0.50 ug/L 0.5 23-APR-2                                                                                                    | ) |
| Tetrachloroethylene <0.50 ug/L 0.5 23-APR-2                                                                                        | ) |
| Toluene <0.50 ug/L 0.5 23-APR-2                                                                                                    | ) |
| trans-1,2-Dichloroethylene <0.50 ug/L 0.5 23-APR-2                                                                                 | ) |
| trans-1,3-Dichloropropene <0.30 ug/L 0.3 23-APR-2                                                                                  | ) |
| Trichloroethylene <0.50 ug/L 0.5 23-APR-2                                                                                          | ) |
| Trichlorofluoromethane <5.0 ug/L 5 23-APR-2                                                                                        | ) |
| Vinyl chloride <0.50 ug/L 0.5 23-APR-2                                                                                             | ) |
| Surrogate: 1,4-Difluorobenzene 101.4 % 70-130 23-APR-2                                                                             | ) |
| Surrogate: 4-Bromofluorobenzene 97.9 % 70-130 23-APR-2                                                                             | ) |
| WG3311300-5 MS WG3311300-3                                                                                                         |   |
| 1,1,1,2-Tetrachloroethane 86.7 % 50-140 23-APR-2                                                                                   | ) |
| 1,1,2,2-Tetrachloroethane 92.0 % 50-140 23-APR-2                                                                                   | ) |
| 1,1,1-Trichloroethane 89.7 % 50-140 23-APR-2                                                                                       | ) |
| 1,1,2-Trichloroethane 90.0 % 50-140 23-APR-2                                                                                       | ) |
| 1,1-Dichloroethane 91.5 % 50-140 23-APR-2                                                                                          | ) |
| 1,1-Dichloroethylene 83.3 % 50-140 23-APR-2                                                                                        | ) |
| 1,2-Dibromoethane 88.8 % 50-140 23-APR-2                                                                                           | ) |
| 1,2-Dichlorobenzene 87.9 % 50-140 23-APR-2                                                                                         | ) |
| 1,2-Dichloroethane 95.0 % 50-140 23-APR-2                                                                                          | ) |
| 1,2-Dichloropropane 94.4 % 50-140 23-APR-2                                                                                         | ) |
| 1,3-Dichlorobenzene 85.7 % 50-140 23-APR-2                                                                                         | ) |
| 1,4-Dichlorobenzene 88.1 % 50-140 23-APR-2                                                                                         | ) |
| Acetone 90.9 % 50-140 23-APR-2                                                                                                     | ) |
| Benzene 93.8 % 50-140 23-APR-2                                                                                                     | ) |
| Bromodichloromethane 98.9 % 50-140 23-APR-2                                                                                        | ) |



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Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

| est                       | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|---------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| /OC-511-HS-WT             | Water  |            |        |           |       |     |        |           |
| Batch R5061334            |        |            |        |           |       |     |        |           |
| WG3311300-5 MS            |        | WG3311300- |        |           |       |     |        |           |
| Bromoform                 |        |            | 91.7   |           | %     |     | 50-140 | 23-APR-20 |
| Bromomethane              |        |            | 109.8  |           | %     |     | 50-140 | 23-APR-20 |
| Carbon tetrachloride      |        |            | 89.0   |           | %     |     | 50-140 | 23-APR-20 |
| Chlorobenzene             |        |            | 88.9   |           | %     |     | 50-140 | 23-APR-20 |
| Chloroform                |        |            | 94.7   |           | %     |     | 50-140 | 23-APR-20 |
| cis-1,2-Dichloroethylene  |        |            | 86.9   |           | %     |     | 50-140 | 23-APR-20 |
| cis-1,3-Dichloropropene   |        |            | 89.9   |           | %     |     | 50-140 | 23-APR-20 |
| Dibromochloromethane      |        |            | 86.3   |           | %     |     | 50-140 | 23-APR-20 |
| Dichlorodifluoromethane   |        |            | 75.3   |           | %     |     | 50-140 | 23-APR-20 |
| Ethylbenzene              |        |            | 83.6   |           | %     |     | 50-140 | 23-APR-20 |
| n-Hexane                  |        |            | 84.3   |           | %     |     | 50-140 | 23-APR-20 |
| m+p-Xylenes               |        |            | 82.7   |           | %     |     | 50-140 | 23-APR-20 |
| Methyl Ethyl Ketone       |        |            | 105.9  |           | %     |     | 50-140 | 23-APR-20 |
| Methyl Isobutyl Ketone    |        |            | 91.4   |           | %     |     | 50-140 | 23-APR-20 |
| Methylene Chloride        |        |            | 93.7   |           | %     |     | 50-140 | 23-APR-20 |
| MTBE                      |        |            | 92.7   |           | %     |     | 50-140 | 23-APR-20 |
| o-Xylene                  |        |            | 92.2   |           | %     |     | 50-140 | 23-APR-20 |
| Styrene                   |        |            | 86.3   |           | %     |     | 50-140 | 23-APR-20 |
| Tetrachloroethylene       |        |            | 84.0   |           | %     |     | 50-140 | 23-APR-20 |
| Toluene                   |        |            | 84.2   |           | %     |     | 50-140 | 23-APR-20 |
| trans-1,2-Dichloroethyler | ne     |            | 87.6   |           | %     |     | 50-140 | 23-APR-20 |
| trans-1,3-Dichloropropen  | ne     |            | 86.8   |           | %     |     | 50-140 | 23-APR-20 |
| Trichloroethylene         |        |            | 92.3   |           | %     |     | 50-140 | 23-APR-20 |
| Trichlorofluoromethane    |        |            | 80.1   |           | %     |     | 50-140 | 23-APR-20 |
| Vinyl chloride            |        |            | 92.6   |           | %     |     | 50-140 | 23-APR-20 |

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CH2M HILL CANADA LIMITED Client: Page 12 of 12

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: AMY CASEY

### 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.        |

#### **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.

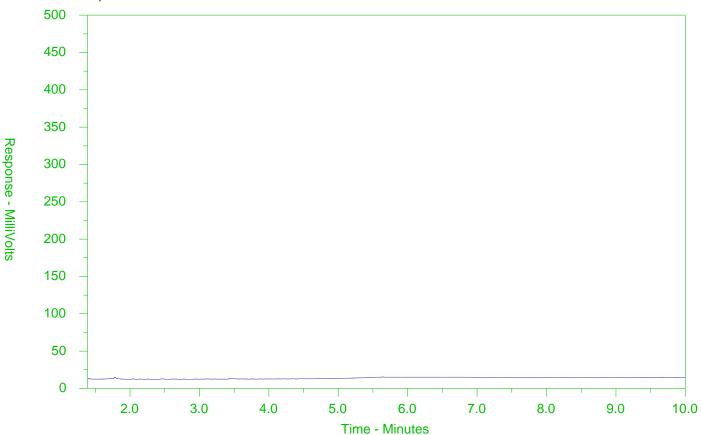
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined data quality objectives to provide 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: L2439186-1 Client Sample ID: MW113



| <b>←</b> -F2- | →-          | _F3 <b>→</b> F4- | <b>→</b>                  |   |
|---------------|-------------|------------------|---------------------------|---|
| nC10          | nC16        | nC34             | nC50                      |   |
| 174°C         | 287°C       | 481°C            | 575°C                     |   |
| 346°F         | 549°F       | 898°F            | 1067°F                    |   |
| Gasolin       | ie →        | <b>←</b> Mo      | tor 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 <a href="https://www.alsglobal.com">www.alsglobal.com</a>.



### Chain of Custody (COC) / Analytical Request Form

L2439186-COFC

COC Number 17 - 798380

Canada Toll Free: 1 800 666 9876 www.alsolobal.com

| Report To                               | Contact and company name below will appe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | tar on the final report |                     | Report Form                 |                    |                 |               |                   |                 |                | low - Co        | ritact y   | our AM     | to confir      | m all E5       | P TATe (e     | wehire           | es máy e      | pply]        |                                             |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------|-----------------------------|--------------------|-----------------|---------------|-------------------|-----------------|----------------|-----------------|------------|------------|----------------|----------------|---------------|------------------|---------------|--------------|---------------------------------------------|
| Company                                 | Jacobs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         | Seleci Report Fo    | ormat: [jul Prof            | EXCEL   E          | DD (DIGITAL)    |               | Regula            | [R]             | St.            | ndard TA        | L ų tece   | ved by 3 ; | m - bysan      | esa dáya -     | no surchă:    | gesappy          |               |              | $\Box$                                      |
| Contact:                                | AMY CISEY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                         |                     | (QC) Report with Rep        |                    | •               | ارُّ          | 4 day (P4         | -20%]           |                |                 | 1 6        | usines     | s day [i       | • <b>10</b> 0% | i)            |                  |               |              |                                             |
| Phone:                                  | 519-603 - 2283                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                         | Compane Res         | auts to Onter a on Report - |                    |                 |               | 3 day [P3         | -25%]           | $\perp$        |                 |            |            |                |                |               |                  | (E2 -200      | 1%           |                                             |
|                                         | Company address below will appear on the fina                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -                       | Select Distributs   |                             | !   MAIL [         |                 | ٠.]           | 2 day [P2         | -50%]           |                | Т,              | (La        | borator    | у орепі        | ng fees        | wah sh        | ply) ]           |               |              |                                             |
| Sfreet:                                 | Favior St. Sc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | uth                     | Email 1 or Fax      | tania, mec                  | <u>arthy@j</u> e   | ACODS COM       |               | Date and Tir      | ne Requi        | red lot II     | I EAP TA        | Fa:        |            |                | ¢              | ld-mmm-       | yy hh:m          | m             |              |                                             |
| City/Province:                          | Kitchener, ON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                         | Email 2 moleC       | Kitle Shirt                 | Quitar             | Si CoiM         |               | e that can not t  | n besjoner      | ed accord      | mg to the       | service la | vel spiech | id. you will   | be contac      | hed           |                  |               |              | ]                                           |
| Postal Code:                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <del>,     </del>       | Email 3 (A)         | My. Co.Scy                  | <u>G ja ceiri</u>  | S COM           | Ц.            |                   |                 |                |                 |            |            | Reque          |                |               |                  | —             |              |                                             |
| Invoice To                              | Same as Report To X YES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -                       | ļ                   | Invoice Dis                 | tribution          |                 | ا مرا         | ¥.                | ndical          |                | - 1 -           | <u> </u>   |            | Mard Pe        | saned (F       | Ф) веку       |                  | <b>-</b> 1 1  | ا ۵          | *                                           |
|                                         | Copy of Invoice with Report   Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I NO                    | Select Invoice D    | istribution 🔀 🗉             | MAJL MAJL          | FAX             | CONTAINERS    | Metals Hing.      | $oxed{igspace}$ |                | F   F           | -   F      |            | $\sqcup$       |                |               | $\sqcup$         | _  ;          | ᄓ            | SUSPECTED NAZARD (see Special Instructions) |
| Сотрвпу:                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                         | Email 1 or Fax      |                             |                    |                 | IJIJ          | 差                 |                 |                |                 |            |            |                |                |               |                  | !             | Ω            | ğ                                           |
| Contact:                                | S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                         | Email 2             |                             |                    |                 | Ι₹Ι           | <b>₹</b>          |                 |                |                 | -          |            |                |                |               |                  | -   ;         | エ            | Ē                                           |
|                                         | Project Information                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                         | +                   | Oil and Gas Required        | <del></del> _      | Ha)             | 5             | 뒨                 |                 |                |                 |            |            |                |                |               |                  | -   ;         | z I          | 끃                                           |
| ALS ACCOUNT #1                          | Quote #: (07)29,80                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         | AFE/Cost Center.    |                             | PO#                |                 | ΙδΙ           | 123               |                 |                |                 |            |            |                |                |               |                  | 1             | 8            | 용                                           |
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| AL5 Lab Worl                            | k Order# (lab use only): L 2439                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 18641                   | ALS Contact:        |                             | Sampler:           |                 | NUMBER        |                   | 17 1            |                |                 | - اوت      | ,          |                |                |               |                  | !             | 윤<br>        | Ē                                           |
| $\overline{}$                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                         |                     |                             |                    |                 | ᄬ             | ن اقعا            | 1 9             | <u>#</u>       | <b>₽</b> [}     | 9          | ٦          |                |                |               |                  |               | 3            | Ü                                           |
| ALS Sample #<br>(leb use only)          | Sample Identification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                         |                     | Date                        | Time               | Sample Type     | I≣I           | C. Keg            | 윒               | Ф.             | ~ ~             | 기 `        | 1          |                |                |               |                  | -   '         | SAM          | <u> </u>                                    |
| · ·                                     | (This description will a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | appear on the report)   |                     | (dd-mmm-yy)                 | (hh mm)            | 6 (             | <u> </u>      |                   |                 | _              | <del> l .</del> | : 17       | _          | $\vdash$       | -              | +             | $\vdash$         | <del></del> ' | <del>"</del> | 60                                          |
|                                         | MW113<br>TRABIONIK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |                     | 23-664-26                   | ic 50              | <u>GW</u>       | 111           | ΧХ                | 쓰               | Х              | ΧĮΧ             | ¥-         | 1          | $\vdash$       | ┿-             | <del></del>   | <del>  .</del> . |               |              | $\vdash\vdash$                              |
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| . <u>.</u>                              | <u>,</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |                     |                             |                    |                 |               |                   |                 |                |                 |            |            |                |                |               |                  |               |              |                                             |
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|                                         | Water (DW) Samples' (client use)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         | (ale                | etronic COC only)           |                    |                 | Frozer        |                   |                 |                |                 | Obse       | rvations   | ; `            | (65            |               |                  | Nο            | Ι            |                                             |
|                                         | from a Regulated DW System?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                         |                     |                             |                    |                 | ice Pa        | rcks 4Ū           | Ica Ci          | ubes           | <b>12</b> 0     | slody :    | eat Inta   | ct             | Yes            |               |                  | No            |              | ]                                           |
|                                         | 5 NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                     |                             |                    |                 | Coolin        | g Initiated       |                 |                | /               |            |            |                |                |               |                  |               |              |                                             |
|                                         | rnan consumption/ use?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         |                     |                             |                    |                 |               | ANITA             | L COOLE         | RTEMP          | RATURE          | s•c        |            | 6              | FIN            | ML COOLE      | R TEMPE          | PATURES       | ነሚ<br>1      |                                             |
|                                         | s (   wo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |                     |                             |                    |                 | <u> </u>      | <u> </u>          |                 |                |                 |            |            | 0              | 7              |               |                  |               |              |                                             |
| Released by                             | SHIPMENT RELEASE (client use)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | T=                      | Deserting 4 to      | INITIAL SHIPMEN             |                    | ib use only)    | 14-           |                   |                 |                | P (s)           | IAL BI     |            |                |                | (lab use      |                  | -             |              |                                             |
|                                         | 4-12-122                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | તા∶મડ <sup>™e:</sup>    | Received by:        |                             | Date: T            |                 | :emif         | Réc               | eived by        | y:             |                 | H          |            | 4              | 77.            | - 20          | 28               | T-0)          | 200          | 5                                           |
| EFER TO BACK P                          | ACE FOR AND LOCATIONS AND SAMPLING INF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ORMATION                |                     | WHIT                        | E - LABORATORY     | COPY YELLOW     | L<br>V . ČLJE | NT COPY           |                 |                | _ <i>y</i>      | <u> </u>   |            | ,              | <u> </u>       | -             | -                |               |              | 2019 - 11(MI                                |

<sup>1.</sup> If any water samples are taxen from a Regulated Drinking Water (DW). System, please submit using an Authorized DW CCC form.



CH2M HILL CANADA LIMITED ATTN: AMY CASEY/MIKE SHIRY 72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9 Date Received: 29-APR-20

Report Date: 05-MAY-20 15:00 (MT)

Version: FINAL

Client Phone: 519-579-3500

# Certificate of Analysis

Lab Work Order #: L2441806
Project P.O. #: NOT SUBMITTED
Job Reference: CE751900

C of C Numbers: Legal Site Desc:

Emily Hansen Account Manager

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ADDRESS: 60 Northland Road, Unit 1, Waterloo, ON N2V 2B8 Canada | Phone: +1 519 886 6910 | Fax: +1 519 886 9047

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L2441806 CONTD.... PAGE 2 of 3 Version: FINAL

| Sample Details/Parameters                                              | Result        | Qualifier* | D.L.  | Units | Extracted | Analyzed  | Batch    |
|------------------------------------------------------------------------|---------------|------------|-------|-------|-----------|-----------|----------|
| L2441806-1 MW113 Sampled By: CLIENT on 29-APR-20 @ 10:15 Matrix: WATER |               |            |       |       |           |           |          |
| Dissolved Metals                                                       |               |            |       |       |           |           |          |
| Dissolved Metals Filtration Location                                   | FIELD         |            |       |       |           | 30-APR-20 | R5069807 |
| Antimony (Sb)-Dissolved                                                | <1.0          | DLHC       | 1.0   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Arsenic (As)-Dissolved                                                 | <1.0          | DLHC       | 1.0   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Barium (Ba)-Dissolved                                                  | 319           | DLHC       | 1.0   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Beryllium (Be)-Dissolved                                               | <1.0          | DLHC       | 1.0   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Boron (B)-Dissolved                                                    | <100          | DLHC       | 100   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Cadmium (Cd)-Dissolved                                                 | 6.16          | DLHC       | 0.050 | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Chromium (Cr)-Dissolved                                                | 6.4           | DLHC       | 5.0   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Cobalt (Co)-Dissolved                                                  | <1.0          | DLHC       | 1.0   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Copper (Cu)-Dissolved                                                  | 3.1           | DLHC       | 2.0   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Lead (Pb)-Dissolved                                                    | <0.50         | DLHC       | 0.50  | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Molybdenum (Mo)-Dissolved                                              | 1.53          | DLHC       | 0.50  | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Nickel (Ni)-Dissolved                                                  | <5.0          | DLHC       | 5.0   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Selenium (Se)-Dissolved                                                | 1.25          | DLHC       | 0.50  | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Silver (Ag)-Dissolved                                                  | <0.50         | DLHC       | 0.50  | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Sodium (Na)-Dissolved                                                  | 3170000       | DLHC       | 5000  | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Thallium (TI)-Dissolved                                                | <0.10         | DLHC       | 0.10  | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Uranium (U)-Dissolved                                                  | 1.06          | DLHC       | 0.10  | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Vanadium (V)-Dissolved                                                 | <5.0          | DLHC       | 5.0   | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
| Zinc (Zn)-Dissolved                                                    | 15            | DLHC       | 10    | ug/L  | 30-APR-20 | 30-APR-20 | R5069917 |
|                                                                        |               |            |       |       |           |           |          |
|                                                                        |               |            |       |       |           |           |          |
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|                                                                        |               |            |       |       |           |           |          |
|                                                                        |               |            |       |       |           |           |          |
| * Refer to Referenced Information for Qualifiers (if any) and          | l Methodology |            |       | 1     | I         | I         |          |

<sup>\*</sup> Refer to Referenced Information for Qualifiers (if any) and Methodology.

L2441806 CONTD....

PAGE 3 of 3 Version: FINAL

### **Reference Information**

#### QC Samples with Qualifiers & Comments:

| QC Type Description | Parameter             | Qualifier | Applies to Sample Number(s) |  |
|---------------------|-----------------------|-----------|-----------------------------|--|
| Matrix Spike        | Barium (Ba)-Dissolved | MS-B      | L2441806-1                  |  |
| Matrix Spike        | Boron (B)-Dissolved   | MS-B      | L2441806-1                  |  |
| Matrix Spike        | Sodium (Na)-Dissolved | MS-B      | L2441806-1                  |  |
| Matrix Spike        | Uranium (U)-Dissolved | MS-B      | L2441806-1                  |  |

#### Sample Parameter Qualifier key listed:

| Qualifier | Description                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------|
| DLHC      | Detection Limit Raised: Dilution required due to high concentration of test analyte(s).            |
| MS-B      | Matrix Spike recovery could not be accurately calculated due to high analyte background in sample. |

#### **Test Method References:**

| ALS Test Code    | Matrix | Test Description                      | Method Reference** |
|------------------|--------|---------------------------------------|--------------------|
| 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).

\*\* 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:

| <b>Laboratory Definition Code</b> | 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.



Workorder: L2441806 Report Date: 05-MAY-20 Page 1 of 4

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300 KITCHENER ON N2G 4Y9

Contact: AMY CASEY/MIKE SHIRY

| Test                     | Matrix | Reference  | Result | Qualifier | Units | RPD          | Limit  | Analyzed  |
|--------------------------|--------|------------|--------|-----------|-------|--------------|--------|-----------|
| MET-D-UG/L-MS-WT         | Water  |            |        |           |       |              |        |           |
| Batch R5069917           |        |            |        |           |       |              |        |           |
| WG3315420-4 DUP          |        | WG3315420- |        | 000 114   | //    | <b>N</b> 1/A | 00     |           |
| Antimony (Sb)-Dissolved  |        | <1.0       | <1.0   | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Arsenic (As)-Dissolved   |        | <1.0       | <1.0   | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Barium (Ba)-Dissolved    |        | 291        | 288    |           | ug/L  | 0.8          | 20     | 30-APR-20 |
| Beryllium (Be)-Dissolved |        | <1.0       | <1.0   | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Boron (B)-Dissolved      |        | <100       | <100   | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Cadmium (Cd)-Dissolved   |        | <0.050     | <0.050 | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Chromium (Cr)-Dissolved  |        | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Cobalt (Co)-Dissolved    |        | 4.5        | 4.5    |           | ug/L  | 1.2          | 20     | 30-APR-20 |
| Copper (Cu)-Dissolved    |        | <2.0       | <2.0   | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Lead (Pb)-Dissolved      |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Molybdenum (Mo)-Disso    | lved   | 1.85       | 1.77   |           | ug/L  | 4.3          | 20     | 30-APR-20 |
| Nickel (Ni)-Dissolved    |        | 6.5        | 6.7    |           | ug/L  | 3.5          | 20     | 30-APR-20 |
| Selenium (Se)-Dissolved  |        | 1.06       | 1.06   |           | ug/L  | 0.4          | 20     | 30-APR-20 |
| Silver (Ag)-Dissolved    |        | <0.50      | <0.50  | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Sodium (Na)-Dissolved    |        | 74500      | 77300  |           | ug/L  | 3.6          | 20     | 30-APR-20 |
| Thallium (TI)-Dissolved  |        | <0.10      | <0.10  | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Uranium (U)-Dissolved    |        | 3.26       | 3.36   |           | ug/L  | 2.8          | 20     | 30-APR-20 |
| Vanadium (V)-Dissolved   |        | <5.0       | <5.0   | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| Zinc (Zn)-Dissolved      |        | <10        | <10    | RPD-NA    | ug/L  | N/A          | 20     | 30-APR-20 |
| WG3315420-2 LCS          |        |            |        |           |       |              |        |           |
| Antimony (Sb)-Dissolved  |        |            | 96.5   |           | %     |              | 80-120 | 30-APR-20 |
| Arsenic (As)-Dissolved   |        |            | 100.8  |           | %     |              | 80-120 | 30-APR-20 |
| Barium (Ba)-Dissolved    |        |            | 100.2  |           | %     |              | 80-120 | 30-APR-20 |
| Beryllium (Be)-Dissolved |        |            | 99.1   |           | %     |              | 80-120 | 30-APR-20 |
| Boron (B)-Dissolved      |        |            | 97.6   |           | %     |              | 80-120 | 30-APR-20 |
| Cadmium (Cd)-Dissolved   |        |            | 101.4  |           | %     |              | 80-120 | 30-APR-20 |
| Chromium (Cr)-Dissolved  | a .    |            | 101.0  |           | %     |              | 80-120 | 30-APR-20 |
| Cobalt (Co)-Dissolved    |        |            | 101.0  |           | %     |              | 80-120 | 30-APR-20 |
| Copper (Cu)-Dissolved    |        |            | 99.4   |           | %     |              | 80-120 | 30-APR-20 |
| Lead (Pb)-Dissolved      | lvod   |            | 99.1   |           | %     |              | 80-120 | 30-APR-20 |
| Molybdenum (Mo)-Disso    | ivea   |            | 97.3   |           | %     |              | 80-120 | 30-APR-20 |
| Nickel (Ni)-Dissolved    | ı      |            | 99.6   |           | %     |              | 80-120 | 30-APR-20 |
| Selenium (Se)-Dissolved  |        |            | 101.9  |           | %     |              | 80-120 | 30-APR-20 |



Workorder: L2441806 Report Date: 05-MAY-20 Page 2 of 4

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: AMY CASEY/MIKE SHIRY

| Test                                    | Matrix | Reference   | Result  | Qualifier | Units      | RPD | Limit  | Analyzed               |
|-----------------------------------------|--------|-------------|---------|-----------|------------|-----|--------|------------------------|
| MET-D-UG/L-MS-WT                        | Water  |             |         |           |            |     |        |                        |
| Batch R5069917                          | 7      |             |         |           |            |     |        |                        |
| WG3315420-2 LCS                         |        |             | /       |           | 0.4        |     |        |                        |
| Silver (Ag)-Dissolved                   | J.     |             | 99.1    |           | %          |     | 80-120 | 30-APR-20              |
| Sodium (Na)-Dissolved                   |        |             | 103.5   |           | %          |     | 80-120 | 30-APR-20              |
| Thallium (TI)-Dissolved                 |        |             | 101.2   |           | %          |     | 80-120 | 30-APR-20              |
| Uranium (U)-Dissolved                   |        |             | 98.9    |           | %          |     | 80-120 | 30-APR-20              |
| Vanadium (V)-Dissolve                   | ed     |             | 101.5   |           | %          |     | 80-120 | 30-APR-20              |
| Zinc (Zn)-Dissolved                     |        |             | 99.5    |           | %          |     | 80-120 | 30-APR-20              |
| WG3315420-1 MB<br>Antimony (Sb)-Dissolv | ed     |             | <0.10   |           | ug/L       |     | 0.1    | 30-APR-20              |
| Arsenic (As)-Dissolved                  |        |             | <0.10   |           | ug/L       |     | 0.1    | 30-APR-20              |
| Barium (Ba)-Dissolved                   |        |             | <0.10   |           | ug/L       |     | 0.1    | 30-APR-20<br>30-APR-20 |
| Beryllium (Be)-Dissolved                |        |             | <0.10   |           | ug/L       |     | 0.1    | 30-APR-20<br>30-APR-20 |
| Boron (B)-Dissolved                     | ou     |             | <10     |           | ug/L       |     | 10     | 30-APR-20              |
| Cadmium (Cd)-Dissolv                    | ved.   |             | <0.0050 |           | ug/L       |     | 0.005  | 30-APR-20              |
| Chromium (Cr)-Dissolv                   |        |             | <0.50   |           | ug/L       |     | 0.5    | 30-APR-20              |
| Cobalt (Co)-Dissolved                   | .00    |             | <0.10   |           | ug/L       |     | 0.1    | 30-APR-20              |
| Copper (Cu)-Dissolved                   | 1      |             | <0.20   |           | ug/L       |     | 0.2    | 30-APR-20              |
| Lead (Pb)-Dissolved                     | •      |             | <0.050  |           | ug/L       |     | 0.05   | 30-APR-20              |
| Molybdenum (Mo)-Dis                     | solved |             | <0.050  |           | ug/L       |     | 0.05   | 30-APR-20              |
| Nickel (Ni)-Dissolved                   | 00.100 |             | <0.50   |           | ug/L       |     | 0.5    | 30-APR-20              |
| Selenium (Se)-Dissolv                   | ed     |             | <0.050  |           | ug/L       |     | 0.05   | 30-APR-20              |
| Silver (Ag)-Dissolved                   |        |             | <0.050  |           | ug/L       |     | 0.05   | 30-APR-20              |
| Sodium (Na)-Dissolved                   | H      |             | <50     |           | ug/L       |     | 50     | 30-APR-20              |
| Thallium (TI)-Dissolved                 |        |             | <0.010  |           | ug/L       |     | 0.01   | 30-APR-20              |
| Uranium (U)-Dissolved                   |        |             | <0.010  |           | ug/L       |     | 0.01   | 30-APR-20              |
| Vanadium (V)-Dissolve                   |        |             | <0.50   |           | ug/L       |     | 0.5    | 30-APR-20              |
| Zinc (Zn)-Dissolved                     |        |             | <1.0    |           | ug/L       |     | 1      | 30-APR-20              |
| WG3315420-5 MS                          |        | WG3315420-6 |         |           | - <b>J</b> |     |        | 30 / II 1 20           |
| Antimony (Sb)-Dissolv                   | ed     |             | 98.9    |           | %          |     | 70-130 | 30-APR-20              |
| Arsenic (As)-Dissolved                  | İ      |             | 107.1   |           | %          |     | 70-130 | 30-APR-20              |
| Barium (Ba)-Dissolved                   | I      |             | N/A     | MS-B      | %          |     | -      | 30-APR-20              |
| Beryllium (Be)-Dissolve                 | ed     |             | 94.9    |           | %          |     | 70-130 | 30-APR-20              |
| Boron (B)-Dissolved                     |        |             | N/A     | MS-B      | %          |     | -      | 30-APR-20              |
| Cadmium (Cd)-Dissolv                    | /ed    |             | 103.8   |           | %          |     | 70-130 | 30-APR-20              |
| Chromium (Cr)-Dissolv                   | ved    |             | 101.6   |           | %          |     | 70-130 | 30-APR-20              |
|                                         |        |             |         |           |            |     |        |                        |



Workorder: L2441806 Report Date: 05-MAY-20 Page 3 of 4

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: AMY CASEY/MIKE SHIRY

| Test                   | Matrix | Reference  | Result | Qualifier | Units | RPD | Limit  | Analyzed  |
|------------------------|--------|------------|--------|-----------|-------|-----|--------|-----------|
| MET-D-UG/L-MS-WT       | Water  |            |        |           |       |     |        |           |
| Batch R506991          | 7      |            |        |           |       |     |        |           |
| WG3315420-5 MS         |        | WG3315420- |        |           |       |     |        |           |
| Cobalt (Co)-Dissolved  |        |            | 93.4   |           | %     |     | 70-130 | 30-APR-20 |
| Copper (Cu)-Dissolve   | d      |            | 90.0   |           | %     |     | 70-130 | 30-APR-20 |
| Lead (Pb)-Dissolved    |        |            | 87.6   |           | %     |     | 70-130 | 30-APR-20 |
| Molybdenum (Mo)-Dis    | solved |            | 103.9  |           | %     |     | 70-130 | 30-APR-20 |
| Nickel (Ni)-Dissolved  |        |            | 90.5   |           | %     |     | 70-130 | 30-APR-20 |
| Selenium (Se)-Dissolv  | ed     |            | 109.5  |           | %     |     | 70-130 | 30-APR-20 |
| Silver (Ag)-Dissolved  |        |            | 93.3   |           | %     |     | 70-130 | 30-APR-20 |
| Sodium (Na)-Dissolve   | d      |            | N/A    | MS-B      | %     |     | -      | 30-APR-20 |
| Thallium (TI)-Dissolve | d      |            | 92.6   |           | %     |     | 70-130 | 30-APR-20 |
| Uranium (U)-Dissolved  | d      |            | N/A    | MS-B      | %     |     | -      | 30-APR-20 |
| Vanadium (V)-Dissolv   | ed     |            | 105.1  |           | %     |     | 70-130 | 30-APR-20 |
| Zinc (Zn)-Dissolved    |        |            | 89.4   |           | %     |     | 70-130 | 30-APR-20 |

Workorder: L2441806 Report Date: 05-MAY-20

Client: CH2M HILL CANADA LIMITED

72 VICTORIA ST S, SUITE 300

KITCHENER ON N2G 4Y9

Contact: AMY CASEY/MIKE SHIRY

### 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                                                                                        |
|-----------|----------------------------------------------------------------------------------------------------|
| 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.        |

#### **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 predetermined 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.

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### Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878



L2441806-COFC

coc Number: 17 - 801110

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|                             | 1717 71-0105/100011,00111                                                             |                  |                                               |                                              |                |               |                                                  |                                                  |             |                 |              |             |                |               |               |                                                                             |                                                  |                                             |
|-----------------------------|---------------------------------------------------------------------------------------|------------------|-----------------------------------------------|----------------------------------------------|----------------|---------------|--------------------------------------------------|--------------------------------------------------|-------------|-----------------|--------------|-------------|----------------|---------------|---------------|-----------------------------------------------------------------------------|--------------------------------------------------|---------------------------------------------|
| Report To                   | Corriect and company name below with appear on the final report                       |                  | Report Format                                 | / Distribution                               |                | I             | Select S                                         | iervice Leve                                     | l Balow     | Conta           | ct your      | AM (o ¢     | ordirm at      | II EAP T      | ATs (BUI      | rcharges r                                                                  | asy apply)                                       |                                             |
| Company:                    | Jacobs                                                                                | Select Report F  | ormat   PDF                                   | EXCEL   F                                    | OFF (DIĞTTAL)  |               | Regula                                           | ारा 🕦                                            | Standard    | 4 TAT €         | ecewed b     | y 3 pm -    | business d     | Jays - no e   | incharge      | :s арру                                                                     |                                                  |                                             |
| Contect:                    | Amy Casey Mike Shiry                                                                  | Quality Control  | (QC) Report with Rep                          | on [  mcs                                    | ND:            | , <u>Ī</u>    | 4 day [P4                                        | 1-20%]                                           |             | ķ               | 1 Busi       | ness di     | ву [Е - 1      | 00%]          |               |                                                                             |                                                  |                                             |
| Phone:                      | 579-803-2283                                                                          | Compare Re       | sults to Ofterla on Report -                  | provide delails below #                      | box checked    | 81            | 3 day [P3                                        | -25%]                                            |             |                 | Same D       | lav. We     | ekend c        | or Stati      | itory hr      | oliday (E2                                                                  | -200%                                            |                                             |
|                             | Company address below will appear on the final report                                 | Select Distribut | ion:   EMAIL                                  | MACL                                         | HAX            | 1.            | 2 day [P2                                        | 60%]                                             | 5           |                 |              |             | pening f       |               |               |                                                                             |                                                  | 니                                           |
| Street                      | 72 Victoria St S.                                                                     | Email 1 or Fax   | tania meca                                    | active PK                                    | robs.co        | ┨             | Date and Ti                                      | na Réquired (                                    | ker yll Eği | P TATs:         |              |             |                | dd-n          | ішп-уу        | hhimm                                                                       | •                                                |                                             |
| Crty/Province:              | Kitchener, ON                                                                         | Email 2 Muc      | heel thin                                     | Diace!                                       | rs-COM         |               | ta thai çan noi                                  | De perférmed a                                   | craught by  | ) jpú đáth      | ice level to | ected, ye   | ALL PART DO DE | principed     |               |                                                                             |                                                  |                                             |
| Postal Code;                |                                                                                       | Email 3 Cif      | DV COSPC                                      | 6 000                                        | JOS.CO         |               |                                                  |                                                  |             |                 | Anai         | ysis Re     | quest          |               |               |                                                                             |                                                  |                                             |
| Invoice To                  | Same as Report To X YES   NO                                                          | ]                | Invoice Di                                    |                                              |                |               |                                                  | Indicate Fé                                      | Nered (F).  | Ризвеч          | ed (P) or F  | ihered ar   | ki Preserve    | ed (F/P) t    | Million.      |                                                                             | $\overline{}$                                    | T                                           |
| <b>L</b>                    | Copy of Invoice with Report   YES   300                                               | Select Inverce E | Distribution: 🔲 A                             | MAIL MAII                                    | FAX            | CONTAINERS    | 10                                               |                                                  | T           |                 |              | $\top$      | T              | $\Box$        |               |                                                                             | 90                                               | 1                                           |
| Company                     | <u> </u>                                                                              | Email 1 or Fax   |                                               |                                              | •              | 造             |                                                  |                                                  | $\top$      | П               |              | 十           | $\top$         | $\Box$        | 一             | $\neg$                                                                      | 1 ō                                              | 탷                                           |
| Contact.                    | ·                                                                                     | Email 2          |                                               |                                              |                | 1 <b>Z</b>    | <u> </u>                                         |                                                  |             |                 |              |             |                | ]             |               |                                                                             | Ť                                                | 1                                           |
|                             | Project Information                                                                   |                  | Oll and Gas Require                           | d Fields (client us                          | ie)            | 1≰.           | Ø                                                |                                                  | 1           |                 |              |             | Į              | 1 1           |               |                                                                             |                                                  | <u>=</u>                                    |
| ALS Account # /             | Quote #: 072980                                                                       | AFE/Cost Conter  |                                               | PO#                                          |                | 1z            | <u>a</u>                                         |                                                  |             |                 |              |             |                | il            |               |                                                                             | <del>S</del>                                     | 1 1                                         |
| Joh #:                      | 0E351900                                                                              | Major#Anor Codo: |                                               | Routing Code                                 |                | 18.           | mete                                             |                                                  |             |                 |              |             |                |               |               |                                                                             | I                                                | Ĭ                                           |
| PO / AFE:                   |                                                                                       | Requisitioner.   |                                               |                                              |                |               | ا ـ ا                                            |                                                  |             |                 |              |             |                |               |               |                                                                             | <u>                                   </u>       | ė                                           |
| LSD:                        |                                                                                       | Location:        |                                               |                                              |                | 6             | 13                                               |                                                  |             |                 |              |             |                |               |               |                                                                             | 1 "                                              | ន៍                                          |
| ALS Lab Wor                 | * Order # (tab use only): 12 UUION 8                                                  | ALS Contact:     |                                               | Sampler:                                     |                | NUMBER        |                                                  |                                                  |             |                 |              |             | 1              | $  \  $       |               |                                                                             | 臣                                                | SUSPECTED HAZARD (see Special Instructions) |
|                             | Sample Identification and the Sample Identification                                   |                  |                                               |                                              | <del></del>    | 12            | ω <u>Σ</u>                                       |                                                  |             |                 |              |             |                |               |               |                                                                             | ΣV                                               | 5                                           |
| ALS Sample # (leb use only) | Sample Identification and/or Coordinates (This description will appear on the report) |                  | Date<br>(dd mmm-yy)                           | Time<br>(Mummi)                              | Sample Type    | I⊋            | 딤                                                |                                                  |             |                 |              |             |                |               |               | 1                                                                           | ि                                                |                                             |
|                             |                                                                                       |                  | <del></del>                                   | (mr.mm)                                      | GW             | 15            | <del>  \</del>                                   | +                                                | +           | $\vdash$        | $\vdash$     | +           | $+\!\!-$       | ₩             | $\rightarrow$ | $-\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!\!$ | <del>  ",</del>                                  | <u> 4</u>                                   |
|                             | MW 113                                                                                |                  | <u> 29-004-20</u>                             | 10:15                                        | GWV            | 11            | <u>                                      </u>    | $\perp$                                          | ↓_          | $\sqcup$        | $\perp$      | +           |                | $\sqcup$      | $\rightarrow$ | <u> </u>                                                                    | L                                                | <b>Ļ</b>                                    |
|                             | - · <u> · · - · · · · · · · · · · · · ·</u>                                           |                  |                                               |                                              |                | <u> </u>      |                                                  |                                                  |             |                 |              | $\bot$      |                | Ш             |               |                                                                             | Ь                                                |                                             |
|                             |                                                                                       |                  |                                               |                                              | ]              |               |                                                  |                                                  |             |                 |              |             | -              |               |               |                                                                             |                                                  |                                             |
| :                           | -                                                                                     |                  |                                               |                                              | !              |               |                                                  |                                                  |             |                 |              | 丁           | $\top$         | П             | $\neg$        | $\neg$                                                                      |                                                  | 1                                           |
|                             | '' '                                                                                  |                  |                                               |                                              | i              | Τ.            |                                                  | <del>                                     </del> | +           | Н               | +            | +           | +              | † †           | -             | +                                                                           | <del>                                     </del> | +                                           |
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|                             |                                                                                       |                  |                                               |                                              |                | <b></b>       | <b>├</b>                                         |                                                  | _           | Ш               |              | +           |                | $\sqcup$      | $\rightarrow$ | $\rightarrow$                                                               | —                                                | 1                                           |
|                             | <u>.</u>                                                                              |                  | -                                             |                                              |                |               | <u></u>                                          | <u> </u>                                         | <u> </u>    | Ш               |              | $\bot$      |                | Ш             |               |                                                                             |                                                  | 1                                           |
| <u> </u>                    |                                                                                       |                  |                                               | 1                                            |                |               |                                                  |                                                  |             |                 |              | ļ           |                | !             |               |                                                                             |                                                  |                                             |
|                             |                                                                                       | ·                |                                               | i                                            |                |               |                                                  |                                                  |             |                 |              | 丁           |                | П             |               |                                                                             |                                                  | Т                                           |
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| Drinking                    | g Water (OW) Samples" (client use)                                                    |                  | ) add on report by click<br>extreme COC only] | ting on the drop-do                          | WII list below |               |                                                  |                                                  | \$AMP\      |                 |              |             | CEIVED<br>Yes  | ) (rap m      | A only        |                                                                             |                                                  | _                                           |
| Are samples taken           | t from a Regulated DW System?                                                         | ,,,,             |                                               |                                              |                | Fraze         |                                                  | ☐<br>Iça Cube                                    | . a         |                 | beervati     |             |                |               | 4             | No                                                                          |                                                  | 님                                           |
| Γ∃ ye                       | s [   NO                                                                              |                  |                                               |                                              |                |               | acks 🔲<br>ng Initiated                           |                                                  | الخلاة      | Custo           | dy seal      | ntect       | Yes            |               | 1             | No                                                                          |                                                  |                                             |
| Are samples for he          | uman consumption/ use?                                                                |                  |                                               |                                              |                | СФОН          |                                                  | L COOLER TO                                      | LIDERDAT    | I ROKEO W       |              | <del></del> |                | ENN (         | VVV FR        | TEMPERATI                                                                   | IDEO M                                           |                                             |
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| 11,11                       | SHIPMENT RELEASE (client use)                                                         | г                | INITIAL SHIPMEN                               | T DECKDYDAL "-                               | h              | Ц.            |                                                  |                                                  |             | Edit A 1        | O L NO.      | ليل         | <u>, 1</u> , 7 |               | a barra i     | 41-4                                                                        |                                                  |                                             |
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| REFER TO BACK               | AGE FOR ALS LOCATIONS AND SAMPLING INFORMATION                                        |                  | WHIT                                          | E - : ABORATORY (                            | COPY YELLOW    | r<br>N - CLI∙ | ENT COPY                                         | -                                                |             | 7 7             |              |             | —              | $\dot{-}$     |               | <i>-</i> 0                                                                  | 104                                              | 2019-19090                                  |

Appendix G
Data Quality and Evaluation Report



# Appendix G. Data Quality Evaluation for Investigation at Baker Street in Guelph, Ontario

### G.1 Introduction

This data quality evaluation (DQE) report assesses the quality of analytical results for soil and groundwater samples collected as part of the investigation at Baker Street in Guelph, Ontario, Canada. Jacobs collected samples between July 22, 2019 and April 29, 2020.

Guidance for this DQE report came from the following:

- Ontario Ministry of the Environment, Conservation and Parks (MECP) Protocol for Analytical Methods Used in the Assessment of Properties under Past XV.1 of the Environmental Protection Act (MECP, 2011)
- Professional judgment based on the U.S. Environmental Protection Agency (EPA) National Functional Guidelines for Organic Superfund Methods Data Review (EPA, 2017a)
- Professional judgment based on the EPA National Function Guidelines for Inorganic Superfund Methods Data Review (EPA, 2017b)
- Individual method requirements

The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability, and completeness (PARCC) as described in the EPA guidance documents.

### G.2 Analytical Data

This DQE report covers 117 normal (N) (81-soil and 36-groundwater), 20 field duplicate samples (FD) (11-soil and 8-groundwater) and 18 trip blank (TB) samples. The samples were reported in 21 Certificate of Analysis (COAs) that are listed in Appendix F.

Samples were collected and delivered to ALS Environmental in Waterloo, Ontario. The samples were analyzed by one or more of the methods listed in Table G-1.

Table G-1. Analytical Parameters

| Parameter                 | Reference Method            |
|---------------------------|-----------------------------|
| ABN,CP,PAH                | SW846 8270, SW846 3510/8270 |
| Boron-HWE                 | HW EXTR, EPA 6010B          |
| Chloride by IC            | EPA 300.1 (mod)             |
| Cyanide (WAD)             | MOE 3015/APHA 4500CN I-WAD  |
| Hexavalent Chromium       | SW846 3060A/7199            |
| Dioxins and Furans        | USEPA 1613B                 |
| Conductivity (EC) in soil | MOEE E3138                  |
| Conductivity              | APHA 2510 B                 |



Table G-1. Analytical Parameters

| Parameter                       | Reference Method                               |
|---------------------------------|------------------------------------------------|
| PHC F1                          | E3398/CCME TIER 1-HS                           |
| PHC F2-F4                       | CCME Tier 1, EPA 3511/CCME Tier 1              |
| PHC F4G SG                      | MOE DECPH-E3398/CCME TIER 1                    |
| Mercury by CVAAS                | EPA 200.2/1631E (mod), EPA 1631E (mod)         |
| Methylmercury                   | DeWild et al. (2004)                           |
| Metals in Soil by CRC ICPMS     | EPA 200.2/6020A (mod)                          |
| % Moisture                      | ASTM D2974-00, CCME PHC in Soil - Tier 1 (mod) |
| Diss. Metals in Water by ICPMS  | EPA 200.8                                      |
| Polychlorinated Biphenyls (PCB) | SW846 3510/8082                                |
| pH in soil                      | MOEE E3137A                                    |
| PH in water                     | APHA 4500 H                                    |
| SAR                             | SW846 6010C                                    |
| TOC & FOC-O.Reg 153/04          | CARTER 21.3.2                                  |
| VOC-O.Reg 153/04                | SW846 8260                                     |

### G.3 Overall Assessment

The goal of this assessment is to demonstrate that enough representative samples were collected, and the resulting analytical data can be used to support the decision-making process.

The overall summary of the precision, accuracy, representativeness, comparability and completeness (PARCC) evaluation is contained in the following sections and summarized in Table G-2. Data users should consider the impact to any result that is qualified as estimated as it may contain a bias which could affect the decision-making process.

Precision of the data was verified through the review of the laboratory and field data quality indicators that include laboratory duplicate and field duplicate relative percent differences (RPD). All field (FD) and laboratory duplicate RPDs calculated for the Baker Street samples were within the acceptable limits (below 30% for groundwater and 50% for soil) except the following:

- Three FD pairs due to RPD exceedances for three metal analytes; 6 results were qualified
- One FD pair due to RPD exceedance for moisture; 2 results were qualified

Detected results associated with the RPD exceedance were flagged "J" and are considered estimated.



Accuracy of the data was verified through the review of the laboratory control sample (LCS), matrix spike (MS) and surrogate recoveries, as well as the evaluation of laboratory method blanks (LB), trip blank (TB) data and other method specific criteria. The overall accuracy reported in this DQE is considered acceptable but was affected by the following:

- Three PAH and five dioxin and furan sample results in a combined three samples from COAs L2318180,
   L2320007 and L2328062 were flagged due GC/MS qualifier ion ratio not meeting criteria
- Eleven dioxin and furan result were flagged due to concentrations below the calibration range but above the EDL. The estimated maximum concentrations (EMPC) are reported
- Four sodium adsorption ratio (SAR) result were flagged due to non-detection for both calcium and magnesium; the lowest possible concentration is reported as a minimum value
- Nineteen SAR result were flagged due to non-detection for sodium or one of calcium or magnesium; the highest possible concentration is reported as a maximum
- Two sample results for n-hexane from COA L2336718 were flagged due to LCS recovery less than the lower control limit
- Four sample results for dichlorodifluoromethane were flagged due to LCS recovery less than the lower control limit; two samples each from COA L2320007 and COA L2436005
- Three F1 (C6-C10) result from COA L2333129 were flagged due to surrogate recoveries less than the lower control limit
- Two dioxin and furan sample result in sample MW108-5-6' from COA L2318180 were flagged due to associated laboratory blank contamination

Detected and non-detected results associated with the QC issues above were flagged "J" and "UJ", respectively and are considered estimated. There were also two sample results that were flagged "U" and are considered non-detected due to detections in the laboratory blank.

Representativeness of the data was verified through the samples' collection, storage, and preservation procedures and the verification of holding-time compliance. All samples shipped to the laboratory arrived below the recommended 10°C and were analyzed within the required holding time except for moisture result in sample BH203-0.5-2 that was analyzed beyond recommended holding time. This result was flagged "J" and is considered estimated.

Comparability of the data was ensured using standard analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.

Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Valid data are defined as all data that are not rejected for project use. No data has been rejected. All data are considered valid.

The soil (SO) and groundwater (GW) analytical data evaluated herein, with the QC issues described above, are considered valid and can be used to support the project decision making process.



Table G-2. Data Qualifiers and Flags

| L2318180 SO MW109-2.5-3.5' 1,2,3,4,6,7,8-HpCDD 0.808 pg/g J  L2318180 SO MW109-2.5-3.5' 2,3,4,7,8-PeCDF 0.024 pg/g J  L2318180 SO MW109-2.5-3.5' 1,2,3,4,6,7,8-HpCDF 0.29 pg/g J  L2318180 SO MW109-2.5-3.5' OCDF 0.862 pg/g J | Validation Reason  EMPC  EMPC  EMPC/ IonRatio  EMPC/ IonRatio |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| L2318180 SO MW109-2.5-3.5' 1,2,3,4,6,7,8-HpCDD 0.808 pg/g J  L2318180 SO MW109-2.5-3.5' 2,3,4,7,8-PeCDF 0.024 pg/g J  L2318180 SO MW109-2.5-3.5' 1,2,3,4,6,7,8-HpCDF 0.29 pg/g J  L2318180 SO MW109-2.5-3.5' OCDF 0.862 pg/g J | EMPC/<br>IonRatio<br>EMPC/<br>IonRatio                        |
| L2318180 SO MW109-2.5-3.5' 2,3,4,7,8-PeCDF 0.024 pg/g J  L2318180 SO MW109-2.5-3.5' 1,2,3,4,6,7,8-HpCDF 0.29 pg/g J  L2318180 SO MW109-2.5-3.5' OCDF 0.862 pg/g J                                                              | EMPC/<br>IonRatio<br>EMPC/<br>IonRatio                        |
| L2318180 SO MW109-2.5-3.5' 2,3,4,7,8-PeCDF 0.024 pg/g J  L2318180 SO MW109-2.5-3.5' 1,2,3,4,6,7,8-HpCDF 0.29 pg/g J  L2318180 SO MW109-2.5-3.5' OCDF 0.862 pg/g J                                                              | IonRatio  EMPC/ IonRatio                                      |
| L2318180 SO MW109-2.5-3.5' 1,2,3,4,6,7,8-HpCDF 0.29 pg/g J  L2318180 SO MW109-2.5-3.5' OCDF 0.862 pg/g J                                                                                                                       | IonRatio                                                      |
| 1.2318180 SO MW108-5-6' 1.2.3.6.7.8-HvCDD 0.023 pg/g 1                                                                                                                                                                         |                                                               |
| 1/318180/50 = 1/318180/50                                                                                                                                                                                                      | EMPC                                                          |
|                                                                                                                                                                                                                                | EMPC/<br>IonRatio                                             |
| L2318180 SO MW108-5-6' 1,2,3,4,6,7,8-HpCDD 0.133 pg/g J                                                                                                                                                                        | EMPC                                                          |
| L2318180 SO MW108-5-6' OCDD 1.06 pg/g J                                                                                                                                                                                        | EMPC                                                          |
| 1.7218180 + S0 + MW/108-5-6' + 1.72789-HyCDE + 20.075 + no.70 + HI                                                                                                                                                             | EMPC/<br>IonRatio                                             |
| 1/31818()   S()     MW1()8-5-6'   1/346/8-Hn(1)F   1/068   ng/g   1                                                                                                                                                            | EMPC/<br>IonRatio                                             |
| L2318180 SO MW108-5-6' OCDF 0.175 pg/g J                                                                                                                                                                                       | EMPC                                                          |
| L2318180 SO MW102-20-25" Sodium Adsorption Ratio 94.2 SAR J                                                                                                                                                                    | EMPC                                                          |
| L2318180 SO BH200-3.5-4.0" Magnesium (Mg) 4.16 mg/L J                                                                                                                                                                          | FD>RPD                                                        |
| L2318180         SO         DUP1         Magnesium (Mg)         0.98         mg/L         J                                                                                                                                    | FD>RPD                                                        |
| L2318180 SO MW108-5-6' 1,2,3,4,6,7,8-HpCDF 0.068 pg/g U                                                                                                                                                                        | LB>RL                                                         |
| L2318180 SO MW108-5-6' OCDF 0.175 pg/g U                                                                                                                                                                                       | LB>RL                                                         |
| L2336718 SO MW102-7.5-9.5 n-Hexane <0.050 ug/g UJ                                                                                                                                                                              | LCS <lcl< td=""></lcl<>                                       |
| L2336718 SO MW102-12.5-14.5 n-Hexane <0.050 ug/g UJ                                                                                                                                                                            | LCS <lcl< td=""></lcl<>                                       |
| L2343122 GW MW108 Sodium Adsorption Ratio <10 SAR UJ                                                                                                                                                                           | EMPC                                                          |
| L2343122 GW MW104 Sodium Adsorption Ratio <130 SAR UJ                                                                                                                                                                          | EMPC                                                          |
| L2343122 GW MW103 Sodium Adsorption Ratio <130 SAR UJ                                                                                                                                                                          | EMPC                                                          |
| L2343122 GW MW101 Sodium Adsorption Ratio 21.8 SAR J                                                                                                                                                                           | EMPC                                                          |
| L2343122 GW MW102B Sodium Adsorption Ratio >22 SAR J                                                                                                                                                                           | ELPC                                                          |
| L2343122 GW MW105 Sodium Adsorption Ratio <130 SAR UJ                                                                                                                                                                          | EMPC                                                          |
| L2343122 GW MW107 Sodium Adsorption Ratio >5.8 SAR J                                                                                                                                                                           | ELPC                                                          |



Table G-2. Data Qualifiers and Flags

| SDG      | Matrix | Native ID          | Analyte                    | Result | Units | Validation<br>Flag | Validation<br>Reason     |
|----------|--------|--------------------|----------------------------|--------|-------|--------------------|--------------------------|
| L2343122 | GW     | DUP1               | Sodium Adsorption Ratio    | <130   | SAR   | UJ                 | EMPC                     |
| L2343122 | GW     | DUP3               | Sodium Adsorption Ratio    | >5.8   | SAR   | J                  | ELPC                     |
| L2343122 | GW     | MW103              | Copper (Cu)-Dissolved      | 4.4    | ug/L  | J                  | FD>RPD                   |
| L2343122 | GW     | DUP1               | Copper (Cu)-Dissolved      | 3.1    | ug/L  | J                  | FD>RPD                   |
| L2334358 | SO     | BH201-12.11"-13.2" | Sodium Adsorption<br>Ratio | 47.6   | SAR   | J                  | EMPC                     |
| L2334358 | SO     | MW100-7.5-9.5      | Sodium Adsorption<br>Ratio | 65.9   | SAR   | J                  | EMPC                     |
| L2333129 | SO     | BH203-0.5-2        | Moisture                   | 3.46   | %     | J                  | HT>UCL                   |
| L2333129 | SO     | MW107-2.5-4.5      | F1 (C6-C10)                | <5.0   | ug/g  | UJ                 | SURR <lcl< td=""></lcl<> |
| L2333129 | SO     | MW107-7.5-9.5      | F1 (C6-C10)                | <5.0   | ug/g  | UJ                 | SURR <lcl< td=""></lcl<> |
| L2333129 | SO     | DUP15              | F1 (C6-C10)                | <5.0   | ug/g  | UJ                 | SURR <lcl< td=""></lcl<> |
| L2333129 | SO     | MW101-7.5-9.5      | Sodium Adsorption<br>Ratio | 9      | SAR   | J                  | EMPC                     |
| L2330748 | SO     | MW109-8-9.5        | Sodium Adsorption<br>Ratio | 16.5   | SAR   | J                  | EMPC                     |
| L2328062 | SO     | MW105-15-17        | Sodium Adsorption<br>Ratio | >40.   | SAR   | J                  | ELPC                     |
| L2328062 | SO     | BH202-10-12        | Sodium Adsorption<br>Ratio | 70.3   | SAR   | J                  | EMPC                     |
| L2328062 | SO     | BH205-10-12        | Sodium Adsorption<br>Ratio | 23.3   | SAR   | J                  | EMPC                     |
| L2328062 | SO     | MW105-5-6          | Sodium Adsorption<br>Ratio | 29.9   | SAR   | J                  | EMPC                     |
| L2328062 | SO     | MW105-10-12        | Sodium Adsorption<br>Ratio | 79.8   | SAR   | J                  | EMPC                     |
| L2328062 | SO     | DUP12              | Sodium Adsorption<br>Ratio | 60     | SAR   | J                  | EMPC                     |
| L2328062 | SO     | MW104-7-9          | Sodium Adsorption<br>Ratio | 69.3   | SAR   | J                  | EMPC                     |
| L2328062 | SO     | DUP13              | Sodium Adsorption<br>Ratio | 60.2   | SAR   | J                  | EMPC                     |
| L2436005 | SO     | MW113-6.5-8.5      | Sodium Absorption<br>Ratio | 108    | SAR   | J                  | EMPC                     |



Table G-2. Data Qualifiers and Flags

| SDG      | Matrix | Native ID        | Analyte                 | Result | Units | Validation<br>Flag | Validation<br>Reason    |
|----------|--------|------------------|-------------------------|--------|-------|--------------------|-------------------------|
| L2328062 | SO     | MW105-5-6        | Benzo(a)anthracene      | 0.086  | ug/g  | J                  | IonRatio                |
| L2328062 | SO     | MW104-7-9        | Barium (Ba)             | 14.6   | ug/g  | J                  | FD>RPD                  |
| L2328062 | SO     | DUP13            | Barium (Ba)             | 24.5   | ug/g  | J                  | FD>RPD                  |
| L2320007 | SO     | BH204 - 2.5-3.5' | Dichlorodifluoromethane | <0.050 | ug/g  | UJ                 | LCS <lcl< td=""></lcl<> |
| L2320007 | SO     | MW106 -0.5-1.5'  | Dichlorodifluoromethane | <0.050 | ug/g  | UJ                 | LCS <lcl< td=""></lcl<> |
| L2436005 | SO     | MW113-2.5-4.5    | Dichlorodifluoromethane | <0.050 | ug/g  | UJ                 | LCS <lcl< td=""></lcl<> |
| L2436005 | SO     | MW113-6.5-8.5    | Dichlorodifluoromethane | <0.050 | ug/g  | UJ                 | LCS <lcl< td=""></lcl<> |
| L2320007 | SO     | MW106 -0.5-1.5'  | Benzo(a)anthracene      | 3.32   | ug/g  | J                  | IonRatio                |
| L2320007 | SO     | MW106 - 2-3'     | Benzo(b)fluoranthene    | 0.061  | ug/g  | J                  | IonRatio                |
| L2381422 | SO     | BH207-1.75-2.25  | % Moisture              | 3.68   | %     | J                  | FD>RPD                  |
| L2381422 | SO     | DUP 1            | % Moisture              | 7.86   | %     | J                  | FD>RPD                  |

Notes:

Validation Reasons:

ug/g = microgram per gram ug/L = microgram per Liter mg/L = milligram per liter pg/g = picogram per gram SAR = Sodium Adsorption Ratio EMPC = Estimated maximum potential concentration ELPC = Estimated lowest potential concentration

FD>RPD = Field duplicate relative percent difference greater than the control limit HT>UCL = Sample was analyzed past the method recommended holding time Ion Ratio = Ion ratio from mass spectroscopy did not meet acceptance criteria LB>RL = Analyte detected in the method blank greater than the reporting limit LCS<LCL = Laboratory control sample recovery below the lower control limit Surr<LCL = Surrogate spike sample recovery below lower control limit

### G.4 References

Ontario Ministry of the Environment, Conservation and Parks (MECP). 2011. *Protocol for Analytical Methods Used in the Assessment of Properties under Past XV.1 of the Environmental Protection Act.* July.

U.S. Environmental Protection Agency (EPA). 2017a. *National Functional Guidelines for Organic Data Review. EPA540/R-2017/002*. January. <a href="https://www.epa.gov/clp/national-functional-guidelines-organic-superfund-methods-data-review-som024">https://www.epa.gov/clp/national-functional-guidelines-organic-superfund-methods-data-review-som024</a>.

U.S. Environmental Protection Agency (EPA). 2017a. *National Functional Guidelines for Inorganic Data Review*. EPA540/R-2017/001. January. https://www.epa.gov/clp/national-functional-guidelines-inorganic-superfund-methods-data-review-ism024