

Phase Two Environmental Site Assessment

Erin Heights Golf Course

5525 8 Line

Erin, ON

Prepared For:

Empire Communities

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Vaughan, ON

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DS Project No : 21-129-300

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Executive Summary

DS Consultants Ltd. (DS) was retained by Empire Communities (the “Client”) to conduct a Phase Two Environmental Site Assessment (ESA) of the Property located at 5525 8 Line, Erin, ON, herein referred to as the “Phase Two Property”. DS understands that this Phase Two ESA has been requested for due diligence purposes and may be used to support the filing of a Record of Site Condition (RSC) which will be required as part of the proposed residential redevelopment of the Phase Two Property.

The Phase Two ESA was completed to satisfy the intent of the requirements, methodology and practices for a Phase Two ESA as described in Ontario Regulation 153/04 (as amended). The objective of this Phase Two ESA is to confirm whether contaminants are present, and at what concentration are they present on the Phase Two Property, as related to the Areas of Potential Environmental Concern (APEC) identified in the Phase One ESA.

The Phase Two Property is a 14.135 hectare (34.9295 acres) parcel of land situated within a rural neighbourhood in the Town of Erin, Ontario. The Phase Two Property is located approximately 75 m northeast of the intersection of 8 Line and Erin Heights Drive, and was occupied by Erin Heights Golf Course at the time of this investigation.

The Phase One ESA completed concurrently indicated that the Phase Two Property was historically used for agricultural purposes from at least 1860 until 1970 at which point the Phase One Property was developed for commercial purposes as a golf course. A total of three (3) Potentially Contaminating Activities (PCAs) were identified in the Phase One ESA, which were considered to be contributing to three (3) APECs on the Phase Two Property. A summary of the APECs, associated PCAs, and contaminants of potential concern (COPC) identified is presented in the table below:

Table E-1: Summary of APECs

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC-1	South-Central portion of the Site, west adjacent to the maintenance shop.	PCA-1: #28: Gasoline and Associated Products Storage in Fixed Tanks	Off-Site	Metals, As, Sb, Se, B-HWS, CN-, Cr (VI), Hg, VOCs, PHCs, PAHs	Soil and Groundwater
APEC-2	South-Central portion of the Site.	PCA-2: #27: Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	On-Site	Metals, As, Sb, Se, B-HWS, CN-, Cr (VI), Hg, VOCs, PHCs, PAHs	Soil and Groundwater
APEC-3	South-Central portion of the Site, east of the maintenance shop.	PCA-3: #49: Salvage Yard, including automobile wrecking	On-Site	Metals, As, Sb, Se, B-HWS, CN-, Cr (VI), Hg, VOCs, PHCs, PAHs	Soil and Groundwater

Based on the findings of the Phase One ESA it was concluded that a Phase Two ESA is warranted in order to assess the soil and groundwater conditions on the Phase Two Property.

The Phase Two ESA was conducted concurrently with a geotechnical investigation. A total of 12 boreholes were completed between April 15, 2021 and April 22, 2021. The boreholes were advanced to a maximum depth of 11 metres below ground surface (mbgs) under the supervision of DS personnel. Four (4) of the 12 boreholes were used for environmental purposes to assess APECs identified by the Phase One ESA. A total of five (5) monitoring wells were installed, three (3) of which were used to assess groundwater quality and four (4) wells were used to assess groundwater flow direction.

Select “worst case” soil samples were collected from the environmental boreholes and submitted for chemical analysis as follows:

- ◆ Eight (8) samples, including 1 QA/QC duplicate for analysis of Metals, As, Sb, Se, CN-, B-HWS, Hg, Cr(VI), EC, SAR and pH;
- ◆ Seven (7) samples for analysis of petroleum hydrocarbons (PHCs) and benzene, toluene, ethylbenzene and xylenes (BTEX);
- ◆ Seven (7) samples for analysis of volatile organic compounds (VOCs); and

- ◆ Seven (7) samples, including 1 QA/QC duplicate for analysis of polycyclic aromatic hydrocarbons.

Groundwater samples were obtained from monitoring wells MW21-1, MW21-10 and MW21-11 and submitted for chemical analysis of metals, As, Sb, Se, CN-, Hg, Cr(VI), Na, Cl, PHCs, BTEX, VOCs and PAHs.

The soil and groundwater analytical results were compared to the “Table 1: Full Depth Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community Use” provided in the MECP document entitled, “*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*” dated April 15, 2011 (Table 1 SCS).

Based on the findings of the Phase Two ESA, DS presents the following findings:

- ◆ A surficial layer of topsoil ranged from 100 mm to 350 mm and was encountered in all of the boreholes advanced, except at MW-21-1 and MW21-10 (250 mm granular fill), MW21-11 (50mm asphalt) and MW21-12 (silty sand). Fill (probable reworked native soils) of silt and sand to silty sand with trace gravel and trace clay was encountered to depths ranging from 1.5 to 3.0 mbgs with the exception of BH21-6 to BH21-8 with gravelly sand to sandy gravel ranging from 1.5 to 4.6 m in depth. Glacial deposits of silty sand till with trace amounts of gravel, clay and cobble/boulders was encountered below the re-worked native and extended the entire depth of the boreholes explored (7.7 to 11 mbgs).
- ◆ The depth to groundwater was measured in five (5) monitoring wells installed during the course of this investigation. The monitoring wells were screened to intercept the groundwater water table. The groundwater levels were found to range between 1.18 to 6.33 mbgs with corresponding elevations of 397.6 to 418.6 metres above sea level (masl). Based on the groundwater elevations recorded, the groundwater flow direction appears to be north towards the Erin Branch of the Credit River. It is possible that the groundwater levels may vary seasonally. The groundwater levels may also be impacted by other factors such as historical infilling activities, subsurface utility trenches, and similar subsurface anomalies. The groundwater flow direction can only be confirmed through long term monitoring.
- ◆ The results of the soil chemical analyses indicated that all of the samples analysed met the MECP Table 1 SCS, with the following exceptions:

Table E-2: Summary of Soil Impacts Identified

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 Standard	Analytical Result
MW21-10 SS1	0.0-0.6	Mercury	ug/g	0.27	0.898
MW21-11 SS1	0-0.6	Conductivity	mS/cm	0.57	0.648
BH21-12 SS1	0-0.6	F3 (C16-C34)	ug/g	240	390
		F4 (C34-C50)	ug/g	120	2670
GS1	0.1-0.2	Lead	ug/g	120	161
		Mercury	ug/g	0.27	1.05
		F2 (C10-C16)	ug/g	10	3930
		F3 (C16-C34)	ug/g	240	14200
		F4 (C34-C50)	ug/g	120	355
		Acenaphthene	ug/g	0.072	<0.49
		Acenaphthylene	ug/g	0.093	0.097
		Fluoranthene	ug/g	0.69	0.718
		Fluorene	ug/g	0.12	0.366
		Phenanthrene	ug/g	0.69	0.95
GS2	0.1-0.2	Pyrene	ug/g	1	1.25
		Cadmium	ug/g	1.2	2.51
		Mercury	ug/g	0.27	1.22
		F3 (C16-C34)	ug/g	240	603
GS3	0.1-0.2	F4 (C34-C50)	ug/g	120	222
		Mercury	ug/g	0.27	0.329

Notes:

- Reported Concentration Exceeds Applicable SCS

- Reported Laboratory Detection Limit Higher than Applicable SCS

- ◆ The results of the groundwater chemical analyses conducted indicated that all samples analyzed met the applicable Table 1 SCS.

Based on a review of the findings of this Phase Two ESA, DS presents the following conclusions and recommendations:

- ◆ The concentrations of mercury, lead, PHCs F2, F3 and F4, and PAHs exceeded the Table 1 SCS in the surficial soil (0.1-0.2 mbgs) adjacent to the diesel AST (APEC-1).

- ◆ The concentrations of PHCs in the F3 & F4 ranges and EC exceeded the MECP Table 1 SCS within the maintenance repair shop (APEC-2) at a depth of 0 to 0.6 mbgs.
- ◆ The concentrations of cadmium, mercury, and PHCs in the F3 and F4 range exceeded the Table 1 SCS in surficial soil (0.1 to 0.2 mbgs) in the derelict equipment area (APEC-3).
- ◆ The results of the groundwater sampling indicated that the groundwater quality met the MECP Table 1 Standards in the samples analyzed. No further groundwater sampling is recommended at this time.
- ◆ Additional site characterization will be required to laterally and vertically delineate the soil impacts identified. This data will be required for future RSC filing purposes and to provide an estimate the volume of impacted soil present.
- ◆ As the proposed redevelopment will result in a more sensitive property use, an RSC will be required. It is anticipated that the impacted soils may be managed through remedial excavation and off-site disposal at the time of site redevelopment. Confirmatory soil sampling will be required at the time of excavation to confirm that the impacted soils have been successfully removed from the Phase Two Property. Additional site characterization is required to confirm the recommended approach for obtaining an RSC.
- ◆ All monitoring wells should be decommissioned in accordance with O.Reg. 903 when no longer required.



Table of Contents

1.0	Introduction	1
1.1	Site Description.....	1
1.2	Property Ownership.....	2
1.3	Current and Proposed Future Use.....	2
1.4	Applicable Site Condition Standards	2
2.0	Background Information.....	3
2.1	Physical Setting	3
	2.1.1 Water Bodies and Areas of Natural Significance	3
	2.1.2 Topography and Surface Water Draining Features	3
2.2	Past Investigations.....	4
3.0	Scope of the Investigation.....	4
3.1	Overview of Site Investigation.....	4
3.2	Media Investigated.....	5
	3.2.1 Rationale for Inclusion or Exclusion of Media	5
	3.2.2 Overview of Field Investigation of Media.....	5
3.3	Phase One Conceptual Site Model.....	5
	3.3.1 Potentially Contaminating Activity Affecting the Phase One Property.....	6
	3.3.2 Contaminants of Potential Concern	6
	3.3.3 Underground Utilities and Contaminant Distribution and Transport	6
	3.3.4 Geological and Hydrogeological Information	7
	3.3.5 Uncertainty and Absence of Information.....	7
3.4	Deviations from Sampling and Analysis Plan.....	8
3.5	Impediments.....	8
4.0	Investigation Method.....	8
4.1	General.....	8
4.2	Drilling and Excavating.....	8
4.3	Soil Sampling.....	9
4.4	Field Screening Measurements	10
4.5	Groundwater Monitoring Well Installation	11
4.6	Groundwater Field Measurement of Water Quality Parameters	11
4.7	Groundwater Sampling	12
4.8	Sediment Sampling	12
4.9	Analytical Testing.....	12
4.10	Residue Management Procedures.....	12
	4.10.1 Soil Cuttings From Drilling and Excavations	12
	4.10.2 Water from Well Development and Purging	13
	4.10.3 Fluids from Equipment Cleaning	13

4.11	Elevation Surveying	13
4.12	Quality Assurance and Quality Control Measures	13
	4.12.1 Sample containers, preservation, labelling, handling and custody for samples submitted for laboratory analysis, including any deviations from the SAP	
	13	
	4.12.2 Description of equipment cleaning procedures followed during all sampling	14
	4.12.3 Description of how the field quality control measures referred to in subsection 3 (3) were carried out	14
	4.12.4 Description of, and rational for, any deviations from the procedures set out in the quality assurance and quality control program set out in the SAP.....	15
5.0	Review and Evaluation	15
5.1	Geology	15
5.2	Ground Water Elevations and Flow Direction	16
	5.2.1 Rationale for Monitoring Well Location and Well Screen Intervals.....	16
	5.2.2 Results of Interface Probe Measurements	16
	5.2.3 Product Thickness and Free Flowing Product.....	16
	5.2.4 Groundwater Elevation	16
	5.2.5 Groundwater Flow Direction.....	17
	5.2.6 Assessment of Potential for Temporal Variability in Groundwater Flow Direction	17
	5.2.7 Evaluation of Potential Interaction Between Buried Utilities and the Water Table	
	Table 17	
5.3	Ground Water Hydraulic Gradients	17
	5.3.1 Horizontal Hydraulic Gradient	17
	5.3.2 Vertical Hydraulic Gradient	18
5.4	Fine-Medium Soil Texture	18
	5.4.1 Results of Grain Size Analysis.....	18
	5.4.2 Rational for the Number of Samples Collected and Analyzed	18
5.5	Soil Field Screening	19
5.6	Soil Quality	19
	5.6.1 Metals and ORPs.....	19
	5.6.2 Petroleum Hydrocarbons.....	20
	5.6.3 Volatile Organic Compounds	20
	5.6.4 Polycyclic Aromatic Hydrocarbons.....	20
	5.6.5 Commentary on Soil Quality	21
5.7	Ground Water Quality	22

5.7.1	Metals and ORPs.....	22
5.7.2	Petroleum Hydrocarbons.....	22
5.7.3	Volatile Organic Compounds.....	22
5.7.4	Polycyclic Aromatic Hydrocarbons.....	22
5.7.5	Commentary on Groundwater Quality.....	22
5.8	Sediment Quality.....	23
5.9	Quality Assurance and Quality Control Results.....	23
5.10	Phase Two Conceptual Site Model.....	24
6.0	Conclusions.....	25
6.1	Qualifications of the Assessors.....	26
6.2	Signatures.....	27
6.3	Limitations.....	28
7.0	References.....	29

TABLES

Table E-1: Summary of APECs.....	iii
Table E-2: Summary of Soil Impacts Identified.....	v
Table 1-1: Phase Two Property Information.....	2
Table 1-2: Phase Two Property Ownership.....	2
Table 3-1: Rationale of Sampling Media.....	5
Table 3-2: Field Investigation of Media.....	5
Table 3-3: Summary of PCAs Contributing to APECs.....	6
Table 4-1: Summary of Drilling Activities.....	9
Table 4-2: Field Screening Equipment.....	10
Table 4-3: Summary of Sample Bottle Preservatives.....	13
Table 5-1: Summary of Geologic Units Investigated.....	15
Table 5-2: Summary of Horizontal Hydraulic Gradient Calculations.....	17
Table 5-3: Summary of Grain Size Analyses.....	18
Table 5-4: Summary of Metals and ORPs Exceedances in Soil.....	19
Table 5-5: Summary of PHCs in Soil.....	20
Table 5-6: Summary of PAHs in Soil.....	21
Table 5-7: Summary of QA/QC Results.....	23

Enclosures

FIGURES

Figure 1 – Site Location Plan

Figure 2 – Phase One Property Site Plan

Figure 3 – Phase One Study Area

Figure 4 – Phase One Study Area

Figure 5 – Borehole Location Plan with APECs

Figure 6 – Groundwater Contours and Flow Direction

Figure 7A – Soil Characterization – Metals and ORPs

Figure 7B – Soil Characterization – PHCs

Figure 7C – Soil Characterization – VOCs

Figure 7D – Soil Characterization – PAHs

Figure 8A – Groundwater Characterization – Metals and ORPs

Figure 8B – Groundwater Characterization – PHCs

Figure 8C – Groundwater Characterization – VOCs

Figure 8D – Groundwater Characterization - PAHs

APPENDICES

Appendix A – Plan of Survey

Appendix B – Sampling and Analysis Plan

Appendix C – Borehole Logs

Appendix D – Laboratory Certificates of Analysis

1.0 Introduction

DS Consultants Ltd. (DS) was retained by Empire Communities (the “Client”) to conduct a Phase Two Environmental Site Assessment (ESA) of the Property located at 5525 8 Line, Erin, ON, herein referred to as the “Phase Two Property”. DS understands that this Phase Two ESA has been requested for due diligence purposes and may be used to support the filing of a Record of Site Condition (RSC) which will be required as part of the proposed residential redevelopment of the Phase Two Property.

The intended future residential property use constitutes a more sensitive property use, as defined under O.Reg. 153/04 (as amended) than the current commercial use. Given that the proposed change in property use is to a more sensitive property use, the filing of a Record of Site Condition (RSC) with the Ontario Ministry of Environment, Conservation and Parks (MECP) will be mandated under O.Reg. 153/04 (as amended).

The Phase Two ESA was completed to satisfy the intent of the requirements, methodology and practices for a Phase Two ESA as described in Ontario Regulation 153/04 (as amended). The objective of this Phase Two ESA is to confirm whether contaminants are present, and at what concentration are they present on the Phase Two Property, as related to the Areas of Potential Environmental Concern (APEC) identified in the Phase One ESA.

1.1 Site Description

The Phase Two Property is a 14.1355 hectare (34.9295 acres) parcel of land situated within a rural neighbourhood in the Town of Erin, Ontario. The Phase Two Property is located approximately 75 m northeast of the intersection of 8 Line and Erin Heights Drive, and was occupied by Erin Heights Golf Course at the time of this investigation. A Site Location Plan depicting the general location of the Site is provided in Figure 1. For the purposes of this report, Erin Heights Drive is assumed to be aligned in an east-west orientation, and 8th Line in a north-south orientation. A Plan of Survey for the Site dated April 26, 2021 and prepared by R-PE Surveying Ltd., an Ontario Land Surveyor, has been provided under *Appendix A*.

The Property is currently occupied by Erin Heights Golf Course which currently includes a main clubhouse, six (6) rental cottages, and a maintenance shop. A Site Plan depicting the orientation of the buildings on-site is provided in Figure 2.

Additional details regarding the Phase Two Property are provided in the table below.

Table 1-1: Phase Two Property Information

Criteria	Information	Source
Legal Description	PART OF LOT 19. REGISTRAR'S COMPILED PLAN 686; PART 4 PLAN 61R21828; SUBJECT TO AN EASEMENT AS IN ROS211740; TOWN OF ERIN	Parcel Register
Property Identification Number (PIN)	71152-0481 (LT)	Parcel Register
Current Site Occupants	5021820 Ontario Inc.	Parcel Register
Site Area	14.1355-hectare (34.9295 acres)	Parcel Register

1.2 Property Ownership

The ownership details for the Phase Two Property are provided in the table below.

Table 1-2: Phase Two Property Ownership

Property Owner	Address	Contact
5021820 Ontario Inc.	185 Derry Road, Mississauga, ON, L2N L63	Jim Holmes

1.3 Current and Proposed Future Use

The Phase Two Property is currently occupied by Erin Heights Golf Course which is considered to be Commercial Property Use under O.Reg. 153/04 (as amended). It is DS's understanding that the Client intends to redevelop the Site for residential use.

1.4 Applicable Site Condition Standards

The applicable Site Condition Standards (SCS) for the Phase Two Property are considered by the Qualified Person (QP) to be the Table 1 SCS: Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use (Table 1 SCS) as contained in the April 15, 2011 Ontario Ministry of Environment, Conservation and Parks (MECP) document entitled "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", herein referred to as the "Table 1 SCS".

The selection of the Table 1 SCS is considered appropriate based on the following rationale:

- ◆ The town of Erin relies on groundwater as a potable water source;
- ◆ The Site is within 30 m of provincially significant wetlands; therefore, the site is considered to be environmentally sensitive, as defined under O.Reg. 153/04 (as amended);
- ◆ The proposed future use of the Phase Two Property will be residential;
- ◆ The pH of the soils analyzed during this Phase Two ESA are within the accepted range specified under O.Reg. 153/04 (as amended); and
- ◆ Bedrock was not encountered within 2 metres of the ground surface.

2.0 Background Information

2.1 Physical Setting

2.1.1 Water Bodies and Areas of Natural Significance

The nearest body of water to the Phase Two Property is the Erin Branch of the Credit River, located approximately 45 m to the north.

There were species identified on Site as endangered, threatened or of special concern. These species include:

- ◆ The Gypsy Cuckoo Bumble Bee as an endangered species,
- ◆ The yellow-banded Bumble Bee, Snapping Turtle, and Midland Painted Turtle as a species of special concern, and
- ◆ The Eastern Meadowlark as a threatened species.

No Areas of Natural and Scientific Interest were identified, however provincially significant wetlands and woodlands are located to the north, east and west of the site within the Phase Two Study Area.

2.1.2 Topography and Surface Water Draining Features

The Phase Two Property is located in an urban setting with surface elevations ranging from approximately 400 to 430 meters above sea level (masl). The topography within the Phase Two Study Area generally slopes to the north towards the Erin Branch of the Credit River located approximately 45 m north of the Phase Two Property. Based on a review of the MECP well records, the depth to groundwater in the vicinity of the Phase Two Property is approximately 15 to 66 mbgs. The shallow groundwater flow direction within the Phase Two Study Area is inferred to be north towards the Credit River.

2.2 Past Investigations

No previous environmental reports were provided for DS to review. A summary of the pertinent findings of the Phase One ESA conducted by DS is provided under Section 3.3 of this report.

3.0 Scope of the Investigation

The scope of the Phase Two ESA was designed to investigate the portions of the Site determined in the Phase One ESA to be Areas of Potential Environmental Concern. This Phase Two ESA was conducted in general accordance with O.Reg. 153/04 (as amended). The scope of the investigation including the subsurface investigation, sampling, and laboratory analysis was based on the findings of the Phase One ESA and was limited to the portions of the site which were accessible.

3.1 Overview of Site Investigation

The following tasks were completed as part of the Phase Two ESA:

- ◆ Preparation of a Health and Safety Plan to ensure that all work was executed safely;
- ◆ Clearance of public private underground utility services prior to commencement of subsurface investigative operations;
- ◆ Preparation of a Sampling and Analysis Plan (SAP);
- ◆ Retained a MECP licenced driller to advance a total of 12 boreholes on the Phase Two Property, to depths ranging between 7.7 and 11.0 mbgs. Five (5) of the boreholes were instrumented with groundwater monitoring wells upon completion. The soil lithology was logged during drilling, and representative soil samples were collected at regular intervals. The soil samples were screened for organic vapours using a RKI Eagle 2 MultiGas Detector, and examined for visual and olfactory indications of soil impacts;
- ◆ Submitted “worst case” soil samples collected from the boreholes for laboratory analysis of relevant contaminants of potential concern (COPCs) as identified in the Phase One ESA;
- ◆ Conducted groundwater level measurements in the monitoring wells in order to determine the groundwater elevation, and to establish the local groundwater flow direction;
- ◆ Surveyed all monitoring wells to a geodetic benchmark;

- ◆ Developed and purged all monitoring wells prior to sampling. Groundwater samples were collected for all COPCs identified in the Phase One ESA;
- ◆ Compared all soil and groundwater analytical data to the applicable MECP SCS; and
- ◆ Prepared a Phase Two ESA Report in general accordance with O.Reg. 153/04 (as amended).

3.2 Media Investigated

3.2.1 Rationale for Inclusion or Exclusion of Media

Table 3-1: Rationale of Sampling Media

Media	Included or Excluded	Rationale
Soil	Included	Soil was identified as a media of potential impact in the Phase One ESA, based on the historical operations conducted on-Site.
Groundwater	Included	Groundwater was identified as a media of potential impact in the Phase One ESA, based on the historical operations conducted on-Site.
Sediment	Excluded	Sediment is not present on the Phase Two Property.
Surface Water	Excluded	Surface water is not present on the Phase Two Property.

3.2.2 Overview of Field Investigation of Media

Table 3-2: Field Investigation of Media

Media	Methodology of Investigation
Soil	<p>A total of 12 boreholes were advanced on the Phase Two Property, to a maximum depth of 11.0 mbgs. Select “worst case” soil samples were collected and submitted for analysis of all relevant COPCs.</p> <p>In addition to the boreholes, three (3) surficial soil samples were collected and submitted for analysis of all relevant COPCs.</p>
Groundwater	Representative groundwater samples were collected from three (3) monitoring wells located within the identified APECs and submitted for analysis of all relevant COPCs.

3.3 Phase One Conceptual Site Model

A Conceptual Site Model was developed for the Phase One Property, located at 5525 8 Line, Erin, ON The Phase One Conceptual Site Model is presented in Figures 3, 4 and 5 and visually depict the following:

- ◆ Any existing buildings and structures
- ◆ Water bodies located in whole, or in part, on the Phase One Study Area

- ◆ Areas of natural significance located in whole, or in part, on the Phase One Study Area
- ◆ Water wells at the Phase One Property or within the Phase One Study Area
- ◆ Roads, including names, within the Phase One Study Area
- ◆ Uses of properties adjacent to the Phase One Property
- ◆ Areas where any PCAs have occurred, including location of any tanks
- ◆ Areas of Potential Environmental Concern

3.3.1 Potentially Contaminating Activity Affecting the Phase One Property

All PCAs identified within the Phase One Study Area are presented on Figure 4. The PCAs which are considered to contribute to APECs on, in or under the Phase One Property are summarized in the table below:

Table 3-3: Summary of PCAs Contributing to APECs

PCA Item.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Rationale
PCA-1	#28: Gasoline and Associated Products Storage in Fixed Tanks	One diesel AST and one gasoline AST were located west adjacent to the equipment maintenance shop on the south-central portion of the Site.	PCA is located on the Phase One Property.
PCA-2	#27: Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	A shop used for the maintenance of golf course grounds maintenance equipment was located on the south-central portion of the Site.	PCA is located on the Phase One Property.
PCA-3	#49: Salvage Yard, including automobile wrecking	Derelict grounds maintenance equipment was located on the south-central portion of the Site, east of the maintenance shop.	PCA is located on the Phase One Property.

3.3.2 Contaminants of Potential Concern

The following contaminants of potential concern were identified for the Phase One Property: Metals, As, Sb, Se, B-HWS, CN-, Cr (VI), Hg, VOCs, PHCs and PAHs.

3.3.3 Underground Utilities and Contaminant Distribution and Transport

Underground utilities can affect contaminant distribution and transport. Trenches excavated to install utility services, and the associated granular backfill may provide preferential pathways for horizontal contaminant migration in the shallow subsurface.

Underground utilities were identified at the Phase One Property, including water, electrical, and septic services to the existing Site Buildings. Plans were not available to confirm the

depths of these utilities, however they are estimated to be installed at depths ranging from 2 to 3 metres below ground surface.

Based on Water Well Information System (WWIS) records, the depth to groundwater at the Phase One Property and Phase One Study Area is between 15 and 66 mbgs. However, the depth to groundwater at the Phase One Property has not been confirmed, therefore the utility corridors may be below the water table and may act as preferential pathways for contaminant distribution and transport in the event that shallow subsurface contaminants exist at the Phase One Property.

3.3.4 Geological and Hydrogeological Information

The topography of the Phase One Property is undulating with surface elevations ranging from approximately 400 to 430 meters above sea level (masl). The topography within the Phase One Study Area generally slopes to the north towards the Erin branch of the Credit River located approximately 45m north of the Phase One Property. Based on a review of the MECP well records, the depth to groundwater in the vicinity of the Phase One Property is approximately 15 to 66 mbgs. The shallow groundwater flow direction within the Phase One Study Area is inferred to be north towards the Credit River.

The Site is situated within the Guelph Drumlin Field physiographic region characterized by spillways. The Phase One Study area borders drumlinized till plains to the south. The surficial geology within the Phase One Study Area is described as glaciofluvial deposits consisting of river deposits and delta topset facies. The Phase One Study Area borders till consisting of stone-poor, sand silt to silty sand-textured till on Paleozoic terrain to the south. The bedrock is described as “sandstone, shale, dolostone, siltstone of the Armabel formation”. Based on a review of MECP well records, the bedrock in the Phase One Study Area is anticipated to be encountered at depths greater than 30 meters below ground surface (mbgs).

3.3.5 Uncertainty and Absence of Information

DS has relied upon information obtained from federal, provincial, municipal, and private databases, in addition to records and summaries provided by EcoLog ERIS. All information obtained was reviewed and assessed for consistency, however the conclusions drawn by DS are subject to the nature and accuracy of the records reviewed.

All reasonable inquiries were made to obtain reasonably accessible information, as mandated by O.Reg.153/04 (as amended). All responses to database requests were received prior to completion of this report, with the exception of the MECP FOI request. If the MECP

FOI request produces information which may alter the conclusions of this report, an addendum will be provided to the Client. This report reflects the best judgement of DS based on the information available at the time of the investigation.

Information used in this report was evaluated based on proximity to the Phase One Property, anticipated direction of local groundwater flow, and the potential environmental impact on the Phase One Property as a result of potentially contaminating activities.

The QP has determined that the uncertainty does not affect the validity of the Phase One ESA Conceptual Site Model or the conclusions of this report.

3.4 Deviations from Sampling and Analysis Plan

The Phase Two ESA was completed in accordance with the SAP.

3.5 Impediments

DS was granted complete access to the Phase Two Property throughout the course of the investigation. No impediments were encountered.

4.0 Investigation Method

4.1 General

The Phase Two ESA followed the methodology outlined in the following documents:

- Ontario Ministry of the Environment “Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario” (December 1996);
- Ontario Ministry of the Environment “Guide for Completing Phase Two Environmental Site Assessments under Ontario regulation 153/04” (June 2011);
- Ontario Ministry of the Environment “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” (July 2011) (Analytical Protocol);

The methods used in the Phase Two ESA investigation did not differ from the associated standard operating procedures.

4.2 Drilling and Excavating

A site visit was conducted prior to drilling in order to identify the borehole locations based on the APECs identified in the Phase One ESA. The selected borehole locations are presented on Figure 5. The borehole locations were cleared of underground public and private utility

services prior to commencement of drilling. A summary of the drilling activities is provided in the table below.

Table 4-1: Summary of Drilling Activities

Parameter	Details
Drilling Contractor	Davis Drilling Ltd. (April 15, 2021 to April 19, 2021) Kodiak Drilling (April 29, 2021)
Drilling Dates	April 15 to 19, 2021, April 29, 2021
Drilling Equipment Used	Track-mounted CME 55 (Davis Drilling Ltd.) Big Beaver (Kodiak Drilling)
Measures taken to minimize the potential for cross contamination	<ul style="list-style-type: none"> ◆ Soil sampling was conducted using a 50 mm stainless steel split spoon sampler. The split spoon sampler was brushed clean of soil, washed in municipal water containing phosphate free detergent, rinsed in municipal water, and then rinsed with distilled water for each sampling interval in order to reduce the potential for cross contamination; ◆ Soil samples were extracted from the interior of the sampler rather than from areas in contact with the sampler sidewalls; ◆ Use of dedicated and disposable nitrile gloves for the handling of soil samples. A new set of gloves was used for each sample.
Sample collection frequency	Samples were collected at a frequency of every 0.6 m per 0.8 m from the ground surface to 3.1 mbgs, followed by one sample per 1.5 m to borehole termination depth.

4.3 Soil Sampling

Soil samples were collected using a hollow stem auger. Discrete soil samples were collected from the split-spoon samplers by DS personnel using dedicated nitrile gloves.

A portion of each sample was placed in a resealable plastic bag for field screening, and the remaining portion was placed into laboratory supplied glass sampling jars. Samples intended for VOC and the F1 fraction of petroleum hydrocarbons analysis were collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes and sealed using Teflon lined septa lids. All sample jars were stored

in dedicated coolers with ice for storage, pending transport to the analytical laboratory. A formal chain of custody was maintained for all samples submitted to the laboratory.

The subsurface soil conditions were logged by DS personnel at the time of drilling, and recorded on field borehole logs. The borehole logs are presented under Appendix C.

4.4 Field Screening Measurements

All retrieved soil samples were screened in the field for visual and olfactory observations. No obvious visual or olfactory evidence of potential contamination were noted with the exceptions of the GS1 sample which had strong PHC odours as well as BH21-12 SS1 and SS2 with a slight PHC odour. No aesthetic impacts (e.g. cinders, slag, hydrocarbon odours) were encountered at other locations investigated. The soil sample headspace vapour concentrations for all soil samples recovered during the investigation were screened using portable organic vapour testing equipment in accordance with the procedure outlined in the MECP’s *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*.

The soil samples were inspected and examined to assess soil type, ground water conditions, and possible chemical contamination by visual and olfactory observations or by organic vapour screening. Samples submitted for chemical analysis were collected from locations judged by the assessor to be most likely to exhibit the highest concentrations of contaminants based on several factors including (i) visual or olfactory observations, (ii) sample location, depth, and soil type (iii) ground water conditions and headspace reading. A summary of the equipment used for field screening is provided below:

Table 4-2: Field Screening Equipment

Parameter	Details
Make and Model of Field Screening Instrument	RKI Eagle 2, Model 5101-P2 Serial Number: E2G721
Chemicals the equipment can detect and associated detection limits	VOCs with dynamic range of 0 parts per million (ppm) to 2,000 ppm PHCs with range of 0 to 50,000 ppm
Precision of the measurements	3 significant figures
Accuracy of the measurements	VOCs: ± 10% display reading + one digit Hydrocarbons: ± 5% display reading + one digit
Calibration reference standards	PID: Isobutylene CGD: Hexane

Parameter	Details
Procedures for checking calibration of equipment	In-field re-calibration of the CGI was conducted (using the gas standard in accordance with the operator’s manual instructions) if the calibration check indicated that the calibration had drifted by more than +/- 10%.

A summary of the soil headspace measurements are provided in the borehole logs, provided under Appendix C.

4.5 Groundwater Monitoring Well Installation

Monitoring wells were installed upon completion of five (5) the boreholes advanced on the Phase Two Property. The monitoring wells were constructed of 51-millimetre (2-inch) inner diameter (ID) flush-threaded schedule 40 polyvinyl chloride (PVC) risers, equipped with a 3.1 m length of No. 10 slot PVC screen. The well screens were sealed at the bottom using a threaded cap and at the top with a lockable J-plug. Silica sand was placed around and up to 0.6 m above the well screen to act as a filter pack. Bentonite was placed from the ground surface to the top of the sand pack. The wells were completed with protective aboveground monument casings for all monitoring wells with the exception of flush mount casings at MW21-1 and MW21-11. Details regarding the monitoring well construction can be found in Table 1, and on the borehole logs provided in Appendix C.

Disposable nitrile gloves were used to minimize the potential for cross-contamination during well installation. Dedicated equipment was used for well development and sampling for further minimize the risk of cross contamination.

The monitoring wells MW21-1 and MW21-10 were developed on April 20, 2021, and MW21-11 was developed on April 30, 2021. In accordance with DS SOPs for monitoring well development, the wells were developed by removing a minimum of three standing water column volumes using dedicated inertial pumps comprised of Waterra polyethylene tubing and dedicated foot valves.

4.6 Groundwater Field Measurement of Water Quality Parameters

Field measurements of water quality parameters including temperature, specific conductivity, pH, turbidity, dissolved oxygen, oxidation-reduction potential and turbidity were collected using a flow-through cell and a YSI Water Quality Meter (YSI-556TM). The YSI Water Quality Meter was calibrated by the supplier (EnviroOne) in accordance with the manufacturer’s specifications. The measurements were conducted at regular intervals in

order to determine whether stabilized geochemical conditions had been established in the monitoring well, indicating representative groundwater conditions. The field measurements have been archived and can be provided upon request.

4.7 Groundwater Sampling

Groundwater samples were collected a minimum of 24 hours after the development of the monitoring wells. The wells were purged using low flow sampling methodology with a peristaltic pump equipped with dedicated polyethylene tubing. A YSI Water Quality Meter equipped with a flow-through cell was used to monitor the geochemical conditions during purging to assess whether steady-state conditions were achieved prior to sampling.

Samples were collected upon stabilization of the water quality parameters. Groundwater samples for metals analysis were field filtered using dedicated 0.45 micro in-line filters. The groundwater was transferred directly into laboratory supplied containers and preserved as appropriate using the containers supplied by the analytical laboratory. The samples were placed in coolers upon completion of sampling and stored on ice for storage, pending transport to the analytical laboratory. A formal chain of custody was maintained for all samples submitted to the laboratory.

4.8 Sediment Sampling

No sediment as defined under O.Reg. 153/04 (as amended) was present on the Phase Two Property at the time of this investigation. Sediment sampling was not conducted as a result.

4.9 Analytical Testing

The soil and groundwater samples collected were submitted to ALS Environmental under chain of custody protocols. ALS Environmental is an independent laboratory accredited by the Canadian Association for Laboratory Accreditation. ALS Environmental conducted the analyses in accordance with the MECP document “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” dated March 9, 2004 (revised on July 1, 2011).

4.10 Residue Management Procedures

4.10.1 Soil Cuttings From Drilling and Excavations

The soil cuttings generated by the borehole drilling program were stored in 205 L drums, and left on-site for disposal by a MECP approved waste-hauler for disposal at a MECP-approved waste management facility.

4.10.2 Water from Well Development and Purging

Excess water derived from well purging activities was stored in 20-L sealed plastic pails, and temporarily stored on site. Upon receipt of the analytical results, it was determined that the purged groundwater meets the applicable Table 1 SCS. Based on this the purged groundwater was allowed to re-infiltrate adjacent to the monitoring wells.

4.10.3 Fluids from Equipment Cleaning

Excess equipment cleaning fluids were stored in 20-L sealed plastic pails and temporarily stored on site for disposal by a MECP approved waste-hauler for disposal at a MECP-approved waste management facility.

4.11 Elevation Surveying

The ground surface elevations of the boreholes were surveyed using a Sokkia GCX-2 GNSS RTK receiver, based on global positioning system satellites. The ground surface elevations can be found on the borehole logs presented in Appendix C.

4.12 Quality Assurance and Quality Control Measures

4.12.1 Sample containers, preservation, labelling, handling and custody for samples submitted for laboratory analysis, including any deviations from the SAP

All soil and groundwater samples were stored in laboratory-supplied sample containers in accordance with the MECP Analytical Protocol. A summary of the preservatives supplied by the laboratory is provided in the table below.

Table 4-3: Summary of Sample Bottle Preservatives

Media	Parameter	Sample Container
Soil	PHCs F1 VOCs	40 mL methanol preserved glass vial with septum lid.
	PHCs F2-F4 metals and ORPs PAHs	120 mL or 250 mL unpreserved glass jar with Teflon™-lined lid.
Groundwater	PHCs F1 VOCs	40 mL glass vial with septum lid, containing sodium bisulphate preservative.
	PHCs F2-F4	250 mL amber glass bottle with sodium bisulphate preservative
	PAHs	250 mL amber glass bottle (unpreserved)

Media	Parameter	Sample Container
	Inorganics	500 mL high density polyethylene bottle (unpreserved)
	Metals	125 mL high density polyethylene bottle containing nitric acid preservative
	Hexavalent Chromium	125 mL high density polyethylene bottle containing ammonium sulphate/ammonium hydroxide preservative
	Mercury	125 mL glass bottle containing hydrochloric acid preservative
	Cyanide	125 mL high density polyethylene bottle containing sodium hydroxide preservative

Groundwater samples were collected using dedicated equipment for each well. Groundwater samples collected for analysis of dissolved metals, mercury and hexavalent chromium were filtered in the field using a dedicated 0.45-micron in-line filter. Each sample container was labelled with a unique sample identification, the project number, and the sampling date. All samples were placed in an ice-filled cooler upon completion of sampling and kept under refrigerated conditions until the time of delivery to the analytical laboratory. A formal chain of custody was maintained for all samples submitted to the laboratory.

4.12.2 Description of equipment cleaning procedures followed during all sampling

Dedicated, disposable nitrile gloves were used for each sampling event to reduce the potential for cross-contamination.

The split spoon sampler was brushed clean of soil, washed in municipal water containing phosphate free detergent, rinsed in municipal water, and then rinsed with distilled water for each sampling interval in order to reduce the potential for cross contamination. Dedicated equipment was used for well development and sampling for further minimize the risk of cross contamination. Non-dedicated equipment (i.e. interface probe) was cleaned before initial use and between all measurement points with a solution of Alconox™ and distilled water. The Alconox™ solution was rinsed off using distilled water.

4.12.3 Description of how the field quality control measures referred to in subsection 3 (3) were carried out

Field duplicate samples were collected at the time of sampling. In accordance with O.Reg. 153/04, one duplicate sample was analyzed per ten samples submitted for analysis. A

laboratory prepared trip blank accompanied the groundwater samples during each sampling event and was submitted for laboratory analysis of VOCs.

All field screening devices (i.e. RKI Eagle 2, YSI Water Quality Meter) were calibrated prior to use by the supplier. Calibration checks were completed, and re-calibrations were conducted as required.

4.12.4 Description of, and rationale for, any deviations from the procedures set out in the quality assurance and quality control program set out in the SAP

There were no deviations from the QA/QC program described in the SAP.

5.0 Review and Evaluation

5.1 Geology

A summary of the subsurface conditions is presented below. Additional details may be found in the borehole logs appended in Appendix C. The boundaries of soil indicated on the borehole logs and described below are intended to reflect transition zones for the purpose of environmental assessment and should not be interpreted as exact planes of geological change.

A surficial layer of topsoil ranged from 100 mm to 350 mm and was encountered in all of the boreholes advanced, except at MW-21-1 and MW21-10 (250 mm granular fill), MW21-11 (50mm asphalt) and MW21-12 (silty sand). Fill (probable reworked native soils) of silt and sand to silty sand with trace gravel and trace clay was encountered to depths ranging from 1.5 to 3.0 mbgs with the exception of BH21-6 to BH21-8 with gravelly sand to sandy gravel ranging from 1.5 to 4.6 m in depth. Glacial deposits of silty sand till with trace amounts of gravel, clay and cobble/boulders were encountered below the re-worked native and extended the entire depth of the boreholes explored (7.7 to 11 mbgs).

Table 5-1: Summary of Geologic Units Investigated

Geologic Unit	Inferred Thickness (m)	Top Elevation (masl)	Bottom Elevation (masl)	Properties
Topsoil	0.0 to 0.35	398.8 to 415.3	398.4 to 415.1	
Granular Fill	0.0 to 0.25	419.1 to 423.0	418.8 to 422.9	
Silt and Sand "Fill"	1.5 to 3	398.4 to 422.7	392.7 to 420.7	Reworked native soils

Geologic Unit	Inferred Thickness (m)	Top Elevation (masl)	Bottom Elevation (masl)	Properties
Sandy Gravel to Gravelly Sand	1.5 to 4.6	407.5 to 415.1	403.1 to 413.8	Water table encountered
Silty Sand Till	>11	392.7 to 420.7	390.9 to 411.8	

5.2 Ground Water Elevations and Flow Direction

5.2.1 Rationale for Monitoring Well Location and Well Screen Intervals

A total of five (5) monitoring wells were installed on the Phase Two Property in order to assess the flow direction, three (3) of which were used to assess groundwater quality in relation to APECs 1, 2, and 3. The COPCs associated with these APECs were PHCs, VOCs, M&I, PAHs. The monitoring wells were screened to intersect the first water bearing formation encountered, in order to allow for the assessment of LNAPL, and to provide information regarding the quality of the groundwater at the water table. The monitoring wells were generally screened within the silty sand/ silty sand till unit encountered at an approximate depth of 397.5 to 417.8 mbgs, with the exception of MW21-10 in which the groundwater table was encountered at an approximate depth of 1.7 mbgs. The groundwater unit investigated is considered to be an unconfined aquifer.

5.2.2 Results of Interface Probe Measurements

A summary of the groundwater level measurements is provided in Table 1. The groundwater level measurements were collected using a Solinst interface probe (model 122). The depth to groundwater was found to range between 1.2 to 6.3 mbgs on April 28, 2021. There was no indication of DNAPL or LNAPL in the monitoring wells at this time.

5.2.3 Product Thickness and Free Flowing Product

No evidence of product was observed in the monitoring wells at the time of the investigation.

5.2.4 Groundwater Elevation

The groundwater elevation was calculated by subtracting the depth to groundwater from the surface elevation determined by the surface elevation survey conducted as part of this investigation. A summary of the groundwater elevations calculated is presented in Table 1. Generally the groundwater elevation was found to range from 397.6 to 418.6 m in the upper aquifer investigated.

5.2.5 Groundwater Flow Direction

The groundwater flow direction was interpreted using the groundwater elevations calculated for the monitoring wells installed on the Phase Two Property. Based on the groundwater elevations calculated, the groundwater flow direction is interpreted to be north towards the Credit River. The groundwater elevation contours and flow direction are presented on Figure 6.

5.2.6 Assessment of Potential for Temporal Variability in Groundwater Flow Direction

The shallow aquifer investigated is inferred to be an unconfined aquifer, based on the soil stratigraphy observed in the boreholes advanced on the Phase Two Property. It is possible that temporal variations in groundwater elevations may occur on the Phase Two Property in response to seasonal weather patterns.

Temporal variability in groundwater level has the ability to influence the groundwater flow direction. The degree of variation in groundwater levels on the Phase Two Property can only be confirmed with long-term monitoring.

5.2.7 Evaluation of Potential Interaction Between Buried Utilities and the Water Table

The groundwater table was encountered at depths ranging from 1.2 to 6.3 mbgs on the Phase Two Property. Buried utility services within APECs are limited to the APEC-1 and APEC-2 locations. The water service line is reported to be shallow (approximately 1 m depth), and the groundwater in this area of the property well below the water line, therefore, the services are not expected to provide a preferential pathway for contaminant migration in groundwater.

5.3 Ground Water Hydraulic Gradients

5.3.1 Horizontal Hydraulic Gradient

The horizontal hydraulic gradient was calculated based on the groundwater levels recorded on April 28, 2021.

Table 5-2: Summary of Horizontal Hydraulic Gradient Calculations

Hydrogeological Unit	Calculated Horizontal Hydraulic Gradient
Overburden – (silty sand till)	Minimum: 0.00087 Average: 0.0340 Maximum: 0.0547

5.3.2 Vertical Hydraulic Gradient

The vertical hydraulic gradient was not calculated, as no groundwater impacts were identified on the Phase Two Property.

5.4 Fine-Medium Soil Texture

More than one-third of the soils encountered on the Phase Two Property are considered to be coarse textured. For the purposes of evaluating the SCS, all soils on the Phase Two Property are considered coarse textured.

5.4.1 Results of Grain Size Analysis

A summary of the soil samples analyzed and the corresponding grain size results is presented in the table below:

Table 5-3: Summary of Grain Size Analyses

Sample	% Gravel	% Sand	% Silt	% Clay	Classification
BH21-1/SS1	8.7	46.4	36.8	8.1	Silt, sand, trace clay and gravel
BH21-1/SS8	11	45.2	30.8	13	Silty sand, some gravel and clay
BH21-2/SS1	1.1	58.2	34.9	5.8	Sand, silt, trace clay and gravel
BH21-2/SS6	9.6	68.6	21.8		Sand, some fines and gravel
BH21-3/SS2	13.6	67.1	14.7	4.6	Silty Sand, trace clay and gravel
BH21-3/SS6	3.7	59	32.4	4.9	Silty sand, some clay and gravel
BH21-4/SS2	15.6	55.9	32.4	7.9	Silty sand, some gravel and clay
BH21-5/SS2/AS2	24.0	40.8	28.9	6.3	Gravelly silty sand, trace clay
BH21-6/SS2	54.2	31.5	14.3		Sandy Gravel, some fines
BH21-7/SS2	35.5	47.2	17.3		Gravel and sand, some fines
BH21-8/SS2	33.7	53.3	13.0		Gravelly sand, some fines
BH21-9/SS1	0.3	40.5	50.9	8.3	Sand, silt, trace clay and gravel
BH21-10/SS2	11.0	53.8	26	9.1	Silty sand, some gravel and clay
BH21-10/SS4	8.5	56.7	25.6	9.2	Silty sand, trace gravel and clay

5.4.2 Rational for the Number of Samples Collected and Analyzed

The grain size analyses were conducted for the purposes of this Phase Two ESA, in addition to a geotechnical investigation which was conducted concurrently. In general, one sample was analyzed per stratigraphic unit encountered in order to characterize the various strata encountered.

5.5 Soil Field Screening

Soil vapour headspace readings were collected at the time of sample collection, the results of which are presented on the borehole logs (Appendix C). The soil vapour headspace readings were collected using a PID and CGD in methane elimination mode. The PID readings ranged between 0 and 2 ppm. The CGD readings ranged between 0 and 65 ppm.

The soil samples were also screened for visual and olfactory indicators of impacts (e.g. staining, odours). No obvious visual or olfactory evidence of potential contamination were noted with the exceptions of the GS1 sample which had strong PHC odours as well as BH21-12 SS1 and SS2 with a slight PHC odour. No aesthetic impacts (e.g. cinders, slag, hydrocarbon odours) were encountered at other locations investigated.

5.6 Soil Quality

The results of the chemical analyses conducted are presented in Tables 5 through 8. A visual summary of the location of the sample locations is provided in Figures 7A through 7D. The laboratory certificates of analysis have been provided under Appendix D.

5.6.1 Metals and ORPs

A total of eight (8) samples, including one (1) field duplicate for QA/QC purposes, were submitted for analysis of metals and ORPs. The results of the analyses are tabulated in Table 5, and presented on Figure 7A.

All of the samples analysed met the MECP Table 1 SCS, with the following exceptions:

Table 5-4: Summary of Metals and ORPs Exceedances in Soil

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 SCS	Reported Value
MW21-10 SS1	0-0.6	Mercury	ug/g	0.27	0.898
MW21-11 SS1	0-0.6	Conductivity	mS/cm	0.57	0.648
GS1	0.1-0.2	Lead	ug/g	120	161
	0.1-0.2	Mercury	ug/g	0.27	1.05
GS2	0.1-0.2	Cadmium	ug/g	1.2	2.51
	0.1-0.2	Mercury	ug/g	0.27	1.22
GS3	0.1-0.2	Mercury	ug/g	0.27	0.329

Reported Concentration Exceeds Applicable SCS

5.6.2 Petroleum Hydrocarbons

A total of seven (7) samples were submitted for analysis of PHCs (incl. BTEX). The results of the analyses are tabulated in Table 6, and presented on Figure 7B.

All of the samples analysed met the MECP Table 1 SCS, with the following exceptions:

Table 5-5: Summary of PHCs in Soil

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 SCS	Reported Value
BH21-12 SS1	0-0.6	F3 (C16-C34)	ug/g	240	390
		F4 (C34-C50)	ug/g	120	2670
GS1	0.1-0.2	F2 (C10-C16)	ug/g	10	3930
		F3 (C16-C34)	ug/g	240	14200
		F4 (C34-C50)	ug/g	120	355
GS2	0.1-0.2	F3 (C16-C34)	ug/g	240	603
		F4 (C34-C50)	ug/g	120	222

Reported Concentration Exceeds Applicable SCS

5.6.3 Volatile Organic Compounds

A total of seven (7) samples were submitted for analysis of VOCs. The results of the analyses are tabulated in Table 7, and presented on Figure 7C. The results of the analyses indicated that all samples analyzed met the applicable Site Condition Standards.

5.6.4 Polycyclic Aromatic Hydrocarbons

A total of seven (7) samples, including one (1) field duplicate for QA/QC purposes were submitted for analysis of PAHs. The results of the analyses are tabulated in Table 8, and presented on Figure 7D.

All of the samples analysed met the MECP Table 1 SCS, with the following exceptions:

Table 5-6: Summary of PAHs in Soil

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 SCS	Reported Value
GS1	0.1-0.2	Acenaphthene	ug/g	0.072	<0.49
		Acenaphthylene	ug/g	0.093	0.097
		Fluoranthene	ug/g	0.69	0.718
		Fluorine	ug/g	0.12	0.366
		Phenanthrene	ug/g	0.69	0.95
		Pyrene	ug/g	1	1.25

Reported Concentration Exceeds Applicable SCS

Reported Laboratory Detection Limit Higher than Applicable SCS

5.6.5 Commentary on Soil Quality

Metals and ORPs

Metal impacts were identified in GS1, GS2, GS3 and MW21-10 SS1 at depths ranging from 0 to 0.6 mbgs associated with APEC-1 and APEC-3. Additional characterization of the vertical and horizontal extent of the impacts in soil will be required to support the future RSC submission.

Electrical Conductivity (EC) impact was identified in sample MW21-11 SS1, a surficial soil sample collected from within the footprint of the maintenance shop building.

PHCs

PHC impacts were identified in GS1, GS2 and BH21-12 SS1 associated with APEC-1, APEC-2 and APEC-3 at depths of 0 to 0.6 mbgs. Additional characterization of the vertical and horizontal extent of PHCs in soil will be required for the future RSC submission.

PAHs

PAH impacts were identified in GS1 (APEC-1) at depths of 0.1 to 0.2 mbgs. Additional characterization of the vertical and horizontal extent of the PAH impacts in soil will be required to support the future RSC submission.

5.7 Ground Water Quality

The results of the chemical analyses conducted are presented in Tables 9 through 12. A visual summary of the location of the sample locations is provided in Figures 8A through 8D. The laboratory certificates of analysis have been provided under Appendix D.

5.7.1 Metals and ORPs

A total of four (4) samples, including one (1) field duplicate for QA/QC purposes, were submitted for analysis of metals and ORPs. The results of the analyses are tabulated in Table 9, and presented on Figure 8A. The groundwater samples transferred into the metals, mercury, and hexavalent chromium bottles were field filtered using a 0.45-micron in-line filter. The results of the analyses indicated that all samples analyzed met the applicable Site Condition Standards.

5.7.2 Petroleum Hydrocarbons

A total of four (4) samples, including two (2) trip blank for QA/QC purposes were submitted for analysis of PHCs (incl. BTEX). The results of the analyses are tabulated in Table 10, and presented on Figure 8B. The results of the analyses indicated that all samples analyzed met the applicable Site Condition Standards.

5.7.3 Volatile Organic Compounds

A total of four (4) samples, including one (1) duplicate and two (2) trip blanks for QA/QC purposes were submitted for analysis of VOCs. The results of the analyses are tabulated in Table 11, and presented on Figure 8C. The results of the analyses indicated that all samples analyzed met the applicable Site Condition Standards.

5.7.4 Polycyclic Aromatic Hydrocarbons

A total of four (4) samples, including one (1) duplicate were submitted for analysis of PAHs. The results of the analyses are tabulated in Table 12, and presented on Figure 8D. The results of the analyses indicated that all samples analyzed met the applicable Site Condition Standards.

5.7.5 Commentary on Groundwater Quality

The results of the chemical analysis indicated that the groundwater samples met the MECP Table 1 Site Condition Standards for the contaminants of potential concern identified in the Phase One ESA.

5.8 Sediment Quality

No sediment was present on the Phase Two Property at the time of the investigation.

5.9 Quality Assurance and Quality Control Results

Collection of soil and groundwater samples was conducted in general accordance with the MECP *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*. As described in Section 5.12, dedicated equipment was used where possible, and all non-dedicated equipment was decontaminated before and between sampling events. All soil and groundwater samples were transferred directly into laboratory-supplied containers. The laboratory containers were prepared by the laboratory with suitable preservative, as required. All samples were stored and transported under refrigerated conditions. Chain of custody protocols were maintained from the time of sampling to delivery to the analytical laboratory.

The field QA/QC program involved the collection of field duplicate soil and groundwater samples, and the use of a trip blank for each groundwater sampling event (when suitable). In addition to the controls listed above, the analytical laboratory employed method blanks, internal laboratory duplicates, surrogate spike samples, matrix spike samples, and standard reference materials.

A summary of the field duplicate samples analyzed and an interpretation of the efficacy of the QA/QC program is provided in the table below.

Table 5-7: Summary of QA/QC Results

Sample ID	QA/QC duplicate	Medium	Parameter Analyzed	QA/QC Result
DUP1	GS2	Soil	Metals and inorganics, PAHs	All results were within the analytical protocol criteria for RPD except for the parameters listed below.
MW20-24	MW21-1	Groundwater	Metals and inorganics, PAHs, PHCs, VOCs	All results were within the analytical protocol criteria for RPD.

The following exceptions in the RPD protocols were identified:

- ◆ The RPD value for GS2 (DUP1) of 33% exceeded the recommended 30% RPD limit for lead. The variance in the analytical result between the parent and duplicate sample are attributed to the heterogeneity of the soil matrix analyzed.
- ◆ The RPD value for GS2 (DUP1) of 21% exceeded the recommended RPD value of 10% for electrical conductivity. The variance in the analytical result between the parent and duplicate sample are attributed to the heterogeneity of the soil matrix analyzed.

Based on the interpretation of the laboratory results and the QA/QC program, it is the opinion of the QP that the laboratory analytical data can be relied upon.

All samples were handled in accordance with the MECP Analytical Protocol regarding sample holding time, preservation methods, storage requirements, and type of container.

ALS Environmental routinely conducts internal QA/QC analyses in order to satisfy regulatory QA/QC requirements. The results of the ALS Environmental QA/QC analyses for the submitted soil samples are summarized in the laboratory Certificates of Analyses provided in Appendix D.

The following comments were provided by ALS Environmental on the laboratory Certificates of Analysis. Commentary on the comments has been provided below:

- ◆ Laboratory Certificate L2578440 – “Silver recovery outside of ALS DQOs due to issue with standard. Reported data is not affect by this issue.”

With respect to subsection 47(3) of O.Reg 153/04 (as amended), all certificates of analysis or analytical reports pursuant to clause 47(2) (b) of the regulation comply with subsection 47(3). A certificate of analysis has been received for each sample submitted for analysis and have been provided (in full) in Appendix D.

A review of the QA/QC sample results indicated that no issues were identified with respect to both the field collection methodology and the laboratory reporting. It is the opinion of the QP that the analytical data obtained are representative of the soil and groundwater conditions at the Phase Two Property for the purpose of assessing whether the soil and groundwater at the Phase Two Property meets the applicable MECP SCS.

5.10 Phase Two Conceptual Site Model

The Phase Two Conceptual Site Model will be prepared under a separate title upon completion of the soil remediation and verification sampling.

6.0 Conclusions

This Phase Two ESA involved the advancement of 12 boreholes, the installation of five (5) monitoring wells, three (3) of which were located within the identified APECs on the Phase Two Property, and the collection of soil and groundwater samples for analysis of the potential contaminants of concern, including: metals and inorganics, PHCs, VOCs and PAHs.

Based on the results of the information gathered through the course of the investigation, DS presents the following conclusions:

- ◆ The concentrations of mercury, lead, PHCs F2, F3 and F4, and PAHs exceeded the Table 1 SCS in the surficial soil (0.1-0.2 mbgs) adjacent to the diesel AST (APEC-1).
- ◆ The concentrations of PHCs in the F3 & F4 ranges and EC exceeded the MECP Table 1 SCS within the maintenance repair shop (APEC-2) at a depth of 0 to 0.6 mbgs.
- ◆ The concentrations of cadmium, mercury, and PHCs in the F3 and F4 range exceeded the Table 1 SCS in surficial soil (0.1 to 0.2 mbgs) in the derelict equipment area (APEC-3).
- ◆ The results of the groundwater sampling indicated that the groundwater quality met the MECP Table 1 Standards in the samples analyzed. No further groundwater sampling is recommended at this time.
- ◆ Additional site characterization will be required to laterally and vertically delineate the soil impacts identified. This data will be required for future RSC filing purposes and to provide an estimate the volume of impacted soil present.
- ◆ As the proposed redevelopment will result in a more sensitive property use, an RSC will be required. It is anticipated that the impacted soils may be managed through remedial excavation and off-site disposal at the time of site redevelopment. Confirmatory soil sampling will be required at the time of excavation to confirm that the impacted soils have been successfully removed from the Phase Two Property. Additional site characterization is required to confirm the recommended approach for obtaining an RSC.
- ◆ All monitoring wells should be decommissioned in accordance with O.Reg. 903 when no longer required.

6.1 Qualifications of the Assessors

Megan Bender, B.E.S, EPT

Ms. Bender is an Engineering Assistant with DS Consultants Ltd. Megan holds a Bachelor's degree in Environmental Studies, specializing in environmental assessments, and a minor in geography from the University of Waterloo and a Post Graduate Certificate in Environmental Engineering Technology from Conestoga College. Megan is registered as an Environmental Professional in training (EPT) with ECO Canada. Megan has been involved with Phase Two Environmental Site Assessments, data interpretation and reporting.

Mr. Keith Clarke, B.Sc.

Mr. Clarke is a Senior Environmental Project Manager with DS Consultants Limited. Keith holds a Bachelor of Science from the Simon Fraser University and a Post Graduate Certificate in Environmental Engineering Applications from Conestoga College. Keith has over twelve years of environmental consulting experience and has conducted and/or managed numerous projects in his professional experience. Keith has extensive experience conducting Phase One and Phase Two Environmental Site Assessments, soil and groundwater remediation, excess soil movement and has supported many risk assessments.

Mr. Patrick (Rick) Fioravanti, B.Sc., P.Geo., QP_{ESA}

Mr. Fioravanti is the Manager of Environmental Services with DS Consultants Limited. Patrick holds an Honours Bachelor of Science with distinction in Toxicology from the University of Guelph, and is a practicing member of the Association of Professional Geoscientists of Ontario (APGO). Patrick has over ten years of environmental consulting experience and has conducted and/or managed hundreds of projects in his professional experience. Patrick has extensive experience conducting Phase One and Phase Two Environmental Site Assessments in support of brownfields redevelopment in urban settings, and been involved in numerous remediation projects, supported many risk assessments, and successfully filed Records of Site Condition with the Ministry of Environment and Climate Change. He has conducted work across southern and eastern Ontario, and Quebec in his professional experience. Patrick is considered a Qualified Person to conduct Environmental Site Assessments as defined by Ontario Regulation 153/04 (as amended).

6.2 Signatures

This Phase Two ESA was conducted under the supervision of Patrick Fioravanti, B.Sc., P.Geo., QP_{ESA} in accordance with the requirements of O.Reg. 153/04 (as amended). The findings and conclusions presented have been determined based on the information obtained at the time of the investigation, and on an assessment of the conditions of the Site at this time.

We trust this report meets with your requirements. Should you have any questions regarding the information presented, please do not hesitate to contact our office.

Yours truly,

DS Consultants Ltd

Prepared By:



Megan Bender, B.E.S., EPT
Engineering Assistant



Keith Clarke, B.Sc.
Senior Project Manager



Rick Fioravanti, B.Sc., P.Geo., QP_{ESA}
Environmental Project Manager

6.3 Limitations

This report was prepared for the sole use of Empire Communities and is intended to provide an assessment of the environmental condition on the property located at 5525 8 Line, Erin, ON. The information presented in this report is based on information collected during the completion of the Phase Two Environmental Site Assessment by DS Consultants Ltd. The material in this report reflects DS' judgment in light of the information available at the time of report preparation. This report may not be relied upon by any other person or entity without the written authorization of DS Consultants Ltd. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this documents or findings, conclusions and recommendations represented herein, is at the sole risk of said users.

The conclusions drawn from the Phase Two ESA were based on information at selected observation and sampling locations. Conditions between and beyond these locations may become apparent during future investigations or on-site work, which could not be detected or anticipated at the time of this investigation. The sampling locations were chosen based upon a cursory historical search, visual observations and limited information provided by persons knowledgeable about past and current activities on this site during the Phase Two ESA activities. As such, DS Consultants Ltd. cannot be held responsible for environmental conditions at the site that was not apparent from the available information.

7.0 References

- ◆ Armstrong, D.K. and Dodge, J.E.P. *Paleozoic Geology Map of Southern Ontario*. Ontario Geological Survey, Miscellaneous Release--Data 219.
- ◆ Chapman, L.J. and Putnam, D.F. 2007. *The Physiography of Southern Ontario*. Ontario Geological Survey, Miscellaneous Release--Data 228.
- ◆ Freeze, R. Allen and Cherry, John A., 1979. *Ground water*. Page 29.
- ◆ Ontario Ministry of the Environment, December 1996. *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*.
- ◆ Ontario Ministry of Environment, 15 April 2011. *Soil, Ground Water and Sediment Standards for use under part XV.1 of the Environmental Protection Act*.
- ◆ Ontario Ministry of the Environment, June 2011. *Guide for Completing Phase Two Environmental Site Assessments under Ontario regulation 153/04*.
- ◆ Ontario Ministry of the Environment, July 2011. *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*.
- ◆ The Ontario Geological Survey. 2003. *Surficial Geology of Southern Ontario*.



Tables



Table 1: Summary of Monitoring Well Installation and Groundwater Data

Well ID		MW21-1	MW21-2	MW21-3	MW21-10	MW21-11	
Installed By:		DS	DS	DS	DS	DS	
Installation Date:		15-Apr-21	19-Apr-21	16-Apr-21	19-Apr-21	29-Apr-21	
Well Status:		Active	Active	Active	Active	Active	
EastUTM17		573786	573411	573771	573806	573800	
NorthUTM17		4846537	4846813	4846863	4846573	4846547	
Inner Diameter	(mm)	50	50	50	50	50	
Surface Elevation	(masl)	422.80	398.80	405.70	419.10	423.10	
Bottom of Concrete Seal/Top of Bentonite Seal	mbgs	0.30	0.30	0.30	0.30	0.30	
	masl	422.50	398.50	405.40	418.80	422.80	
Bottom of Bentonite Seal/Top of Sand Pack	mbgs	7.00	4.00	4.00	0.70	4.00	
	masl	415.80	394.80	401.70	418.40	419.10	
Top of Well Screen	mbgs	7.60	4.60	4.60	1.30	4.60	
	masl	415.20	394.20	401.10	417.80	418.50	
Well Screen Length	m	3.00	3.00	3.00	3.00	3.00	
Bottom of Well Screen	mbgs	10.60	7.60	7.60	4.30	7.60	
	masl	412.20	391.20	398.10	414.80	415.50	
GW Monitoring							
28-Apr-21	Depth to GW	mbgs	5.00	1.18	6.33	1.69	-
	GW Elevation	masl	417.80	397.62	399.37	417.41	-
30-Apr-21	Depth to GW	mbgs	-	-	-	-	4.48
	GW Elevation	masl	-	-	-	-	418.62

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 2: Summary of Soil Samples Submitted for Chemical Analysis

Borehole ID	Sample No.	Sample Depth (mbgs)	Soil Description	Parameter Analyzed	APEC Investigated
MW21-1	SS2	0.8-1.4	silt and sand fill	Metals, PAHs	APEC 1
	SS4	2.3-2.9	silty sand till	VOCs, PHCs	
	GS1	0.1-0.2	granular fill	Metals, VOCs, PHCs, PAHs	
MW21-10	SS1	0-0.6	silty sand fill, some gravel	Metals, PAHs	APEC 3
	SS3	1.5-2.1	silty sand fill, some gravel	VOCs, PHCs	
	GS2	0.1-0.2	granular fill	Metals, VOCs, PHCs, PAHs	
	GS3	0.1-0.2	granular fill	Metals, VOCs, PHCs, PAHs	
MW21-11	SS1	0-0.6	silty sand fill	Metals	APEC 2
	SS7	4.6-5.2	silty sand, trace gravel	PHCs, VOCs	
BH21-12	SS1	0-0.6	silty sand	PHCs, VOCs, PAHs	
	SS2	0.8-1.4	silty sand	Metals	

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 3: Summary of Groundwater Samples Submitted for Chemical Analysis

Well ID	Well Screen Interval (masl)		Sample Date	Parameter Analyzed	APEC Investigated
MW21-1	412.20	- 415.20	21-Apr-21	Metals and ORPs, PHCs, VOCs, PAHs	APEC 1
MW21-10	414.80	- 417.80	21-Apr-21	Metals and ORPs, PHCs, VOCs, PAHs	APEC 3
MW21-11	415.50	- 418.50	3-May-21	Metals and ORPs, PHCs, VOCs, PAHs	APEC 2

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 4: Summary of APECs Investigated

APEC	Description	PCOCs	Media	Boreholes Within APEC	Samples Analysed	Parameter Analyzed	
APEC-1	Gasoline storage tank in the south-central portion of the property, west adjacent to the maintenance shop	Metals, As, Sb, Se, B-HWS, CN-, Cr (VI), Hg, VOCs, PHCs, PAHs	Soil	MW21-1	SS2	Metals and ORPs, PAHs	
					SS4	VOCs, PHCs	
			Groundwater	MW21-1	GS1	GS1	Metals and ORPs, VOCs, PHCs, PAHs
					MW20-24 (Duplicate of MW21-1)	Metals and ORPs, PHCs, VOCs, PAHs	
APEC-2	Garage and maintenance repair area in the south-central portion of the site	Metals, As, Sb, Se, B-HWS, CN-, Cr (VI), Hg, VOCs, PHCs, PAHs	Soil	MW21-11	SS1	Metals and ORPs	
					SS7	PHCs, VOCs	
			Groundwater	MW21-11	SS1	SS1	PHCs, VOCs, PAHs
					SS2	SS2	Metals and ORPs
APEC-3	Salvage yard on the south-central portion of the property, east of the maintenance shop	Metals, As, Sb, Se, B-HWS, CN-, Cr (VI), Hg, VOCs, PHCs, PAHs	Soil	MW21-10	SS1	Metals and ORPs, PAHs	
					SS3	VOCs, PHCs	
					GS2	GS2	Metals and ORPs, VOCs, PHCs, PAHs
			Groundwater	MW21-10	GS3	GS3	Metals and ORPs VOCs, PHCs, PAHs
			Groundwater	MW21-10	MW21-10	Metals and ORPs, PHCs, VOCs, PAHs	

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section



Table 5: Summary of Metals and ORPs in Soil

Parameter	MECP Table 1 SCS	MW21-1 SS2	MW21-10 SS1	GS1	GS2	DUP1 (Duplicate of GS2)	GS3	MW21-11 SS1	BH21-12 SS2	
Date of Collection		15-Apr-21	19-Apr-21	15-Apr-21	19-Apr-21	19-Apr-21	19-Apr-21	29-Apr-21	29-Apr-21	
Date Reported		28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	17-May-21	17-May-21
Sampling Depth (mbgs)		0.8-1.4	0.0-0.6	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0-0.6	0.8-1.4
Analytical Report Reference No.		L2578440-1	L2578440-3	L2578440-5	L2578440-6	L2578440-8	L2578440-7	L2582555-1	L2582555-4	
Antimony	1.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Arsenic	18	2.1	3.3	5.3	2.8	2.5	3.3	3.5	3.5	
Barium	220	16.6	36.9	61.1	23.1	20.8	43.8	40.3	29.3	
Beryllium	2.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Boron	36	<5.0	<5.0	5.3	<5.0	<5.0	<5.0	<5.0	6.5	
Boron (Hot Water Soluble)	36	0.12	0.31	0.55	0.69	0.6	0.55	0.53	0.4	
Cadmium	1.2	<0.50	<0.50	1.19	2.51	2.01	<0.50	<0.50	0.5	
Chromium	70	7.7	13.7	18.3	9.1	8.5	12.8	14.8	12.6	
Chromium VI	0.66	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Cobalt	21	2.4	3.8	4.5	2.5	2.4	4.2	5.4	4.1	
Copper	92	7.8	7.5	17.2	10	9	8.5	10.3	15.5	
Cyanide	0.051	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Lead	120	23.4	24.4	161	20	14.3	33	30.3	40.4	
Mercury	0.27	0.0541	0.898	1.05	1.22	1.17	0.329	0.0485	0.0536	
Molybdenum	2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Nickel	82	5.6	6.8	10	4.9	4.7	7.4	8.8	8.6	
Selenium	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Silver	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	
Thallium	1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	
Uranium	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	
Vanadium	86	16.5	33.3	35.4	19.7	18.5	30.6	33.1	24	
Zinc	290	92.9	92.4	270	79.6	63.7	101	116	167	
Electrical Conductivity (2:1)	0.57	0.138	0.222	0.131	0.161	0.198	0.272	0.648	0.25	
Sodium Adsorption Ratio	2.4	0.15	<0.10	<0.10	<0.10	<0.10	<0.10	0.35	0.26	
pH, 2:1 CaCl ₂ Extraction	NV	7.94	7.24	6.99	7.18	7.08	7.2	7.52	7.79	

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section



Table 6: Summary of PHCs in Soil

Parameter	MECP Table 1 SCS	MW21-1 SS4	MW21-10 SS3	GS1	GS2	GS3	MW21-11 SS7	BH21-12 SS1
Date of Collection		15-Apr-21	19-Apr-21	15-Apr-21	19-Apr-21	19-Apr-21	29-Apr-21	29-Apr-21
Date Reported		28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	17-May-21	17-May-21
Sampling Depth (mbgs)		2.3-2.9	1.5-2.1	0.1-0.2	0.1-0.2	0.1-0.2	4.6-5.2	0-0.6
Analytical Report Reference No.		L2578440-2	L2578440-4	L2578440-5	L2578440-6	L2578440-7	L2582555-2	L2582555-3
Benzene	0.02	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Ethylbenzene	0.05	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
Toluene	0.2	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Xylenes (Total)	0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
F1 (C6-C10) -BTEX	25	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	10	<10	<10	3930	<10	<10	<10	<10
F3 (C16-C34)	240	<50	<50	14200	603	<50	<50	390
F4 (C34-C50)	120	<50	<50	355	940	<50	<50	2670

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 7: Summary of VOCs in Soil

Parameter	MECP Table 1 SCS	MW21-1 SS4	MW21-10 SS3	GS1	GS2
Date of Collection		15-Apr-21	19-Apr-21	15-Apr-21	19-Apr-21
Date Reported		28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21
Sampling Depth (mbgs)		2.3-2.9	1.5-2.1	0.1-0.2	0.1-0.2
Analytical Report Reference No.		L2578440-2	L2578440-4	L2578440-5	L2578440-6
Acetone	0.5	<0.50	<0.50	<0.50	<0.50
Bromomethane	0.05	<0.050	<0.050	<0.050	<0.050
Carbon Tetrachloride	0.05	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	0.05	<0.050	<0.050	<0.050	<0.050
Chloroform	0.05	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	0.05	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	0.05	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	0.05	<0.050	<0.050	<0.050	<0.050
Dichlorodifluoromethane	0.05	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	0.05	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	0.05	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	0.05	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,2-cis-	0.05	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,2-trans-	0.05	<0.050	<0.050	<0.050	<0.050
Dichloropropane, 1,2-	0.05	<0.050	<0.050	<0.050	<0.050
Dichloropropene, 1,3-	0.05	<0.042	<0.042	<0.042	<0.042
Ethylene dibromide	0.05	<0.050	<0.050	<0.050	<0.050
Hexane (n)	0.05	<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	0.5	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	0.5	<0.50	<0.50	<0.50	<0.50
Methyl tert-Butyl Ether (MTBE)	0.05	<0.050	<0.050	<0.050	<0.050
Methylene Chloride	0.05	<0.050	<0.050	<0.050	<0.050
Styrene	0.05	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	0.05	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	0.05	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	0.05	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	0.05	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	0.05	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	0.05	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	0.25	<0.050	<0.050	<0.050	<0.050
Vinyl Chloride	0.02	<0.020	<0.020	<0.020	<0.020

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 7: Summary of VOCs in Soil

Parameter	GS3	MW21-11 SS7	BH21-12 SS1
Date of Collection	19-Apr-21	29-Apr-21	29-Apr-21
Date Reported	28-Apr-21	17-May-21	17-May-21
Sampling Depth (mbgs)	0.1-0.2	4.6-5.2	0-0.6
Analytical Report Reference No.	L2578440-7	L2582555-2	L2582555-3
Acetone	<0.50	<0.50	<0.50
Bromomethane	<0.050	<0.050	<0.050
Carbon Tetrachloride	<0.050	<0.050	<0.050
Chlorobenzene	<0.050	<0.050	<0.050
Chloroform	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	<0.050	<0.050	<0.050
Dichlorodifluoromethane	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	<0.050	<0.050	<0.050
Dichloroethylene, 1,2-cis-	<0.050	<0.050	<0.050
Dichloroethylene, 1,2-trans-	<0.050	<0.050	<0.050
Dichloropropane, 1,2-	<0.050	<0.050	<0.050
Dichloropropene, 1,3-	<0.042	<0.042	<0.042
Ethylene dibromide	<0.050	<0.050	<0.050
Hexane (n)	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	<0.50	<0.50	<0.50
Methyl tert-Butyl Ether (MTBE)	<0.050	<0.050	<0.050
Methylene Chloride	<0.050	<0.050	<0.050
Styrene	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	<0.050	<0.050	<0.050
Tetrachloroethylene	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	<0.050	<0.050	<0.050
Trichloroethylene	<0.010	<0.010	<0.010
Trichlorofluoromethane	<0.050	<0.050	<0.050
Vinyl Chloride	<0.020	<0.020	<0.020

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included in this Section.



Table 8: Summary of PAHs in Soil

Parameter	MECP Table 1 SCS	MW21-1 SS2	MW21-10 SS1	GS1	GS2	DUP1 (Duplicate of GS2)	GS3	BH21-12 SS1	
Date of Collection		15-Apr-21	19-Apr-21	15-Apr-21	19-Apr-21	19-Apr-21	19-Apr-21	19-Apr-21	29-Apr-21
Date Reported		28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	17-May-21
Sampling Depth (mbgs)		0.8-1.4	0.0-0.6	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.1-0.2	0.0-0.6
Analytical Report Reference No.		L2578440-1	L2578440-3	L2578440-5	L2578440-6	L2578440-8	L2578440-7	L2582555-3	
Methylnaphthalene, 2-(1-)	0.59	<0.042	<0.042	<0.41	<0.042	<0.042	<0.042	<0.042	
Acenaphthene	0.072	<0.050	<0.050	<0.49	<0.050	<0.050	<0.050	<0.050	
Acenaphthylene	0.093	<0.050	<0.050	0.097	<0.050	<0.050	<0.050	<0.050	
Anthracene	0.16	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Benz(a)anthracene	0.36	<0.050	<0.050	0.115	<0.050	<0.050	<0.050	<0.050	
Benzo(a)pyrene	0.3	<0.050	<0.050	0.182	<0.050	<0.050	<0.050	<0.050	
Benzo(b+j)fluoranthene	0.47	<0.050	<0.050	0.358	<0.050	0.05	<0.050	<0.050	
Benzo(g,h,i)perylene	0.68	<0.050	<0.050	0.317	<0.050	<0.050	<0.050	<0.050	
Benzo(k)fluoranthene	0.48	<0.050	<0.050	0.101	<0.050	<0.050	<0.050	<0.050	
Chrysene	2.8	<0.050	<0.050	0.291	<0.050	<0.050	<0.050	<0.050	
Dibenz(a,h)anthracene	0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	
Fluoranthene	0.56	<0.050	<0.050	0.718	<0.050	<0.050	<0.050	<0.050	
Fluorene	0.12	<0.050	<0.050	0.366	<0.050	<0.050	<0.050	<0.050	
Indeno(1,2,3-cd)pyrene	0.23	<0.050	<0.050	0.192	<0.050	<0.050	<0.050	<0.050	
Naphthalene	0.09	<0.013	<0.013	0.07	<0.013	<0.013	<0.013	<0.013	
Phenanthrene	0.69	<0.046	<0.046	0.95	<0.046	<0.046	<0.046	<0.046	
Pyrene	1	<0.050	<0.050	1.25	<0.050	<0.050	<0.050	<0.050	

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 9: Summary of Metals and ORPs in Groundwater

Parameter	MECP Table 1 SCS	Units	MW21-1	MW20-24 (duplicate of MW21-1)	MW21-10	MW21-11
Date of Collection			21-Apr-21	21-Apr-21	21-Apr-21	3-May-21
Date Reported			28-Apr-21	28-Apr-21	28-Apr-21	13-May-21
Screen Interval (mbgs)			7.6-10.6	7.6-10.6	1.3-4.3	4.6-7.6
Analytical Report Reference No.			L2579308-1	L2579308-2	L2579308-3	L2582823-1
Antimony	1.5	µg/L	0.1	0.1	<0.10	<0.10
Arsenic	13	µg/L	0.48	0.45	0.3	0.27
Barium	610	µg/L	65.7	65.9	114	31.9
Beryllium	0.5	µg/L	<0.10	<0.10	<0.10	<0.10
Boron (total)	1700	µg/L	55	54	46	13
Cadmium	0.5	µg/L	0.013	0.015	0.041	0.019
Chromium Total	11	µg/L	<0.50	<0.50	<0.50	0.53
Cobalt	3.8	µg/L	0.22	0.21	0.22	0.43
Copper	5	µg/L	1.3	1.23	2.79	0.66
Lead	1.9	µg/L	0.089	0.09	0.318	0.389
Molybdenum	23	µg/L	1.47	1.46	0.718	0.874
Nickel	14	µg/L	1.21	1.15	1.45	0.68
Selenium	5	µg/L	0.514	0.518	0.204	0.234
Silver	0.3	µg/L	<0.050	<0.050	<0.050	<0.050
Sodium	490000	µg/L	22500	22000	7520	2060
Thallium	0.5	µg/L	0.022	0.021	0.026	0.011
Uranium	8.9	µg/L	0.966	0.977	1.07	0.322
Vanadium	3.9	µg/L	0.84	0.84	<0.50	<0.50
Zinc	160	µg/L	3.5	3.4	9.3	4.2
Chloride	790000	µg/L	9420	9490	26800	3400
Chromium VI	25	µg/L	<0.50	<0.50	<0.50	<0.50
Cyanide	5	µg/L	<2.0	<2.0	<2.0	<2.0
Mercury	0.1	µg/L	<0.0050	<0.0050	<0.0050	<0.0050

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section



Table 10: Summary of PHCs in Groundwater

Parameter	MECP Table 1 SCS	MW21-1	MW20-24 (duplicate of MW21-1)	MW21-10	TRIP BLANK	MW21-11	TRIP BLANK
Date of Collection		21-Apr-21	21-Apr-21	21-Apr-21	21-Apr-21	3-May-21	3-May-21
Date Reported		28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	13-May-21	13-May-21
Screen Interval (mbgs)		7.6-10.6	7.6-10.6	1.3-4.3		4.6-7.6	
Analytical Report Reference No.		L2579308-1	L2579308-2	L2579308-3	L2579308-4	L2582823-1	L2582823-1
Benzene	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	0.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Xylenes (Total)	72	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
F1 (C6 to C10) minus BTEX	420	<25	<25	<25	-	<25	-
F2 (C10 to C16)	150	<100	<100	<100	-	<100	-
F3 (C16 to C34)	500	<250	<250	<250	-	<250	-
F4 (C34 to C50) minus PAHs	500	<25	<25	<25	-	<250	-

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 11: Summary of VOCs in Groundwater

Parameter	MECP Table 1 SCS	MW21-1	MW20-24 (duplicate of MW21-1)	MW21-10	TRIP BLANK	MW21-11	TRIP BLANK
Date of Collection		21-Apr-21	21-Apr-21	21-Apr-21	21-Apr-21	3-May-21	3-May-21
Date Reported		28-Apr-21	28-Apr-21	28-Apr-21	28-Apr-21	13-May-21	13-May-21
Screen Interval (mbgs)		7.6-10.6	7.6-10.6	1.3-4.3		4.6-7.6	
Analytical Report Reference No.		L2579308-1	L2579308-2	L2579308-3	L2579308-4	L2582823-1	L2582823-1
Acetone	2700	<30	<30	<30	<30	<30	<30
Bromomethane	0.89	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorobenzene, 1,2-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,3-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,4-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	590	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dichloroethane, 1,1-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethane, 1,2-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,1-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,2-cis-	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,2-trans-	1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropane, 1,2-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropene, 1,3-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylene dibromide	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Hexane (n)	5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Ethyl Ketone	400	<20	<20	<20	<20	<20	<20
Methyl Isobutyl Ketone	640	<20	<20	<20	<20	<20	<20
Methyl tert-Butyl Ether (MTBE)	15	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methylene Chloride	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Styrene	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,1,2-	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,2,2-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethane, 1,1,1-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethane, 1,1,2-	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	150	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl Chloride	0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 12: Summary of PAHs in Groundwater

Parameter	MECP Table 1 SCS	MW21-1	MW20-24 (duplicate of MW21-1)	MW21-10	MW21-11
Date of Collection		21-Apr-21	21-Apr-21	21-Apr-21	3-May-21
Date Reported		28-Apr-21	28-Apr-21	28-Apr-21	13-May-21
Screen Interval (mbgs)		7.6-10.6	7.6-10.6	1.3-4.3	4.6-7.6
Analytical Report Reference No.		L2579308-1	L2579308-2	L2579308-3	L2582823-1
Methylnaphthalene, 2-(1-)	2	<0.028	<0.028	<0.028	0.086
Acenaphthene	4.1	<0.020	<0.020	<0.020	<0.020
Acenaphthylene	1	<0.020	<0.020	<0.020	<0.020
Anthracene	0.1	<0.020	<0.020	<0.020	<0.020
Benz(a)anthracene	0.2	<0.020	<0.020	<0.020	<0.020
Benzo(a)pyrene	0.01	<0.010	<0.010	<0.010	<0.010
Benzo(b+j)fluoranthene	0.1	<0.020	<0.020	<0.020	<0.020
Benzo(g,h,i)perylene	0.2	<0.020	<0.020	<0.020	<0.020
Benzo(k)fluoranthene	0.1	<0.020	<0.020	<0.020	<0.020
Chrysene	0.1	<0.020	<0.020	<0.020	<0.020
Dibenz(a,h)anthracene	0.2	<0.020	<0.020	<0.020	<0.020
Fluoranthene	0.4	<0.020	<0.020	<0.020	<0.020
Fluorene	120	<0.020	<0.020	<0.020	<0.020
Indeno(1,2,3-cd)pyrene	0.2	<0.020	<0.020	<0.020	<0.020
Naphthalene	7	<0.050	<0.050	<0.050	<0.050
Phenanthrene	0.1	<0.020	<0.020	<0.020	<0.020
Pyrene	0.2	<0.020	<0.020	<0.020	<0.020

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 13: Summary of Maximum Concentrations in Soil

Parameter		Standard	Maximum Concentration	Location
Metals and ORPs	Antimony	1.3	<1.0	All Samples
	Arsenic	18	5.3	GS1
	Barium	220	61.1	GS1
	Beryllium	2.5	<0.50	All Samples
	Boron	36	6.5	BH21-12 SS2
	Boron (Hot Water Soluble)	36	0.69	GS2
	Cadmium	1.2	2.51	GS2
	Chromium	70	18.3	GS1
	Chromium VI	0.66	<0.20	All Samples
	Cobalt	21	5.4	MW21-11 SS1
	Copper	92	17.2	GS1
	Cyanide	0.051	<0.050	All Samples
	Lead	120	161	GS1
	Mercury	0.27	1.22	GS2
	Molybdenum	2	<1.0	All Samples
	Nickel	82	10	GS1
	Selenium	1.5	<1.0	All Samples
	Silver	0.5	<0.20	All Samples
	Thallium	1	<0.50	All Samples
	Uranium	2.5	<1.0	All Samples
Vanadium	86	35.4	GS1	
Zinc	290	270	GS1	
Electrical Conductivity (2:1)	0.57	0.648	MW21-11 SS1	
Sodium Adsorption Ratio	2.4	0.35	MW21-11 SS1	
pH, 2:1 CaCl2 Extraction	NV	7.94	MW21-1 SS2	
PHCs	Benzene	0.02	<0.0068	All Samples
	Ethylbenzene	0.05	<0.018	All Samples
	Toluene	0.2	<0.080	All Samples
	Xylenes (Total)	0.05	<0.050	All Samples
	F1 (C6-C10) -BTEX	25	<5.0	All Samples
	F2 (C10-C16)	10	3930	GS1
	F3 (C16-C34)	240	14200	GS1
	F4 (C34-C50)	120	2670	BH21-12 SS1



Table 13: Summary of Maximum Concentrations in Soil

	Parameter	Standard	Maximum Concentration	Location
VOCs	Acetone	0.5	<0.50	All Samples
	Bromomethane	0.05	<0.050	All Samples
	Carbon Tetrachloride	0.05	<0.050	All Samples
	Chlorobenzene	0.05	<0.050	All Samples
	Chloroform	0.05	<0.050	All Samples
	Dichlorobenzene, 1,2-	0.05	<0.050	All Samples
	Dichlorobenzene, 1,3-	0.05	<0.050	All Samples
	Dichlorobenzene, 1,4-	0.05	<0.050	All Samples
	Dichlorodifluoromethane	0.05	<0.050	All Samples
	Dichloroethane, 1,1-	0.05	<0.050	All Samples
	Dichloroethane, 1,2-	0.05	<0.050	All Samples
	Dichloroethylene, 1,1-	0.05	<0.050	All Samples
	Dichloroethylene, 1,2-cis-	0.05	<0.050	All Samples
	Dichloroethylene, 1,2-trans-	0.05	<0.050	All Samples
	Dichloropropane, 1,2-	0.05	<0.050	All Samples
	Dichloropropene, 1,3-	0.05	<0.042	All Samples
	Ethylene dibromide	0.05	<0.050	All Samples
	Hexane (n)	0.05	<0.050	All Samples
	Methyl Ethyl Ketone	0.5	<0.50	All Samples
	Methyl Isobutyl Ketone	0.5	<0.50	All Samples
	Methyl tert-Butyl Ether (MTBE)	0.05	<0.050	All Samples
	Methylene Chloride	0.05	<0.050	All Samples
	Styrene	0.05	<0.050	All Samples
	Tetrachloroethane, 1,1,1,2-	0.05	<0.050	All Samples
	Tetrachloroethane, 1,1,2,2-	0.05	<0.050	All Samples
	Tetrachloroethylene	0.05	<0.050	All Samples
	Trichloroethane, 1,1,1-	0.05	<0.050	All Samples
	Trichloroethane, 1,1,2-	0.05	<0.050	All Samples
	Trichloroethylene	0.05	<0.010	All Samples
	Trichlorofluoromethane	0.25	<0.050	All Samples
Vinyl Chloride	0.02	<0.020	All Samples	



Table 13: Summary of Maximum Concentrations in Soil

Parameter		Standard	Maximum Concentration	Location
PAHs	Methylnaphthalene, 2-(1-)	0.59	<0.042	All Samples
	Acenaphthene	0.072	<0.49	GS1
	Acenaphthylene	0.093	0.097	GS1
	Anthracene	0.16	<0.050	All Samples
	Benz(a)anthracene	0.36	0.115	GS1
	Benzo(a)pyrene	0.3	0.182	GS1
	Benzo(b+j)fluoranthene	0.47	0.358	GS1
	Benzo(g,h,i)perylene	0.68	0.317	GS1
	Benzo(k)fluoranthene	0.48	0.101	GS1
	Chrysene	2.8	0.291	GS1
	Dibenz(a,h)anthracene	0.1	<0.050	All Samples
	Fluoranthene	0.56	0.718	GS1
	Fluorene	0.12	0.366	GS1
	Indeno(1,2,3-cd)pyrene	0.23	0.192	GS1
	Naphthalene	0.09	0.07	GS1
	Phenanthrene	0.69	0.95	GS1
Pyrene	1	1.25	GS1	



Table 14: Summary of Maximum Concentrations in Groundwater

	Parameter	Standard	Maximum Concentration	Location
Metals and ORPs	Antimony	1.5	0.1	MW21-1
	Arsenic	13	0.48	MW21-1
	Barium	610	114	MW21-10
	Beryllium	0.5	<0.10	All Samples
	Boron (total)	1700	55	MW21-1
	Cadmium	0.5	0.041	MW21-10
	Chromium Total	11	0.53	MW21-11
	Cobalt	3.8	0.43	MW21-11
	Copper	5	2.79	MW21-10
	Lead	1.9	0.389	MW21-11
	Molybdenum	23	1.47	MW21-1
	Nickel	14	1.45	MW21-10
	Selenium	5	0.518	MW20-24 (duplicate of MW21-1)
	Silver	0.3	<0.050	All Samples
	Sodium	490000	22500	MW21-1
	Thallium	0.5	0.026	MW21-10
	Uranium	8.9	1.07	MW21-10
Vanadium	3.9	0.84	MW21-1	
Zinc	160	9.3	MW21-10	
PHCs	Benzene	0.5	<0.50	All Samples
	Ethylbenzene	0.5	<0.50	All Samples
	Toluene	0.2	<0.50	All Samples
	Xylenes (Total)	72	<0.50	All Samples
	F1 (C6 to C10) minus BTEX	420	<25	All Samples
	F2 (C10 to C16)	150	<100	All Samples
	F3 (C16 to C34)	500	<250	All Samples
	F4 (C34 to C50) minus PAHs	500	<25	All Samples



Table 14: Summary of Maximum Concentrations in Groundwater

	Parameter	Standard	Maximum Concentration	Location
VOCs	Acetone	2700	<30	All Samples
	Bromomethane	0.89	<0.50	All Samples
	Carbon Tetrachloride	0.2	<0.20	All Samples
	Chlorobenzene	0.5	<0.50	All Samples
	Chloroform	2	<1.0	All Samples
	Dichlorobenzene, 1,2-	0.5	<0.50	All Samples
	Dichlorobenzene, 1,3-	0.5	<0.50	All Samples
	Dichlorobenzene, 1,4-	0.5	<0.50	All Samples
	Dichlorodifluoromethane	590	<2.0	All Samples
	Dichloroethane, 1,1-	0.5	<0.50	All Samples
	Dichloroethane, 1,2-	0.5	<0.50	All Samples
	Dichloroethylene, 1,1-	0.5	<0.50	All Samples
	Dichloroethylene, 1,2-cis-	1.6	<0.50	All Samples
	Dichloroethylene, 1,2-trans-	1.6	<0.50	All Samples
	Dichloropropane, 1,2-	0.5	<0.50	All Samples
	Dichloropropene, 1,3-	0.5	<0.50	All Samples
	Ethylene dibromide	0.2	<0.20	All Samples
	Hexane (n)	5	<0.50	All Samples
	Methyl Ethyl Ketone	400	<20	All Samples
	Methyl Isobutyl Ketone	640	<20	All Samples
	Methyl tert-Butyl Ether (MTBE)	15	<2.0	All Samples
	Methylene Chloride	5	<5.0	All Samples
	Styrene	0.5	<0.50	All Samples
	Tetrachloroethane, 1,1,1,2-	1.1	<0.50	All Samples
	Tetrachloroethane, 1,1,2,2-	0.5	<0.50	All Samples
	Tetrachloroethylene	0.5	<0.50	All Samples
	Trichloroethane, 1,1,1-	0.5	<0.50	All Samples
	Trichloroethane, 1,1,2-	0.5	<0.50	All Samples
Trichloroethylene	0.5	<0.50	All Samples	
Trichlorofluoromethane	150	<5.0	All Samples	
Vinyl Chloride	0.5	<0.50	All Samples	



Table 14: Summary of Maximum Concentrations in Groundwater

Parameter		Standard	Maximum Concentration	Location
PAHs	Methylnaphthalene, 2-(1-)	2	0.086	MW21-11
	Acenaphthene	4.1	<0.020	All Samples
	Acenaphthylene	1	<0.020	All Samples
	Anthracene	0.1	<0.020	All Samples
	Benz(a)anthracene	0.2	<0.020	All Samples
	Benzo(a)pyrene	0.01	<0.010	All Samples
	Benzo(b+j)fluoranthene	0.1	<0.020	All Samples
	Benzo(g,h,i)perylene	0.2	<0.020	All Samples
	Benzo(k)fluoranthene	0.1	<0.020	All Samples
	Chrysene	0.1	<0.020	All Samples
	Dibenz(a,h)anthracene	0.2	<0.020	All Samples
	Fluoranthene	0.4	<0.020	All Samples
	Fluorene	120	<0.020	All Samples
	Indeno(1,2,3-cd)pyrene	0.2	<0.020	All Samples
	Naphthalene	7	<0.050	All Samples
	Phenanthrene	0.1	<0.020	All Samples
Pyrene	0.2	<0.020	All Samples	

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section



Notes for Soil and Groundwater Summary Tables

	For soil and groundwater analytical results, concentration exceeds the applicable Standards.
	For soil and groundwater analytical results, laboratory detection limits exceed the applicable Standards.
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
masl	Meters above sea level
MECP Table 1 SCS	Full Depth Background Site Condition Standards for Use Residential/Parkland/Institutional/ Industrial/Commercial/Community Property Use as contained in Table 8 of the "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", published by the MECP on April 15, 2011.
mbgs	Meters below ground surface
NM	Not Monitored
NA	Not Available
ORP	Other Regulated Parameter
VOC	Volatile Organic Compound
PAH	Polyaromatic Hydrocarbon
PHC	Petroleum Hydrocarbon
Units	Units for all soil analyses are in µg/g (ppm) unless otherwise indicated
Units	Units for all groundwater analyses are in µg/L (ppb) unless otherwise indicated



Figures



Legend

 Approx Property Boundary



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Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title: **SITE LOCATION PLAN**



Client:
 EMPIRE COMMUNITIES

Size:
 8.5 x 11

Rev:
 0

Approved By: K.C

Scale: As Shown

Image/Map Source: Google Street Map

Drawn By: S.Y

Project No.: 21-129-300

Date: June 2021

Figure No.: 1



Legend

- Approx Property Boundary
- Diesel AST
- Gasoline AST



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Client: **EMPIRE COMMUNITIES**

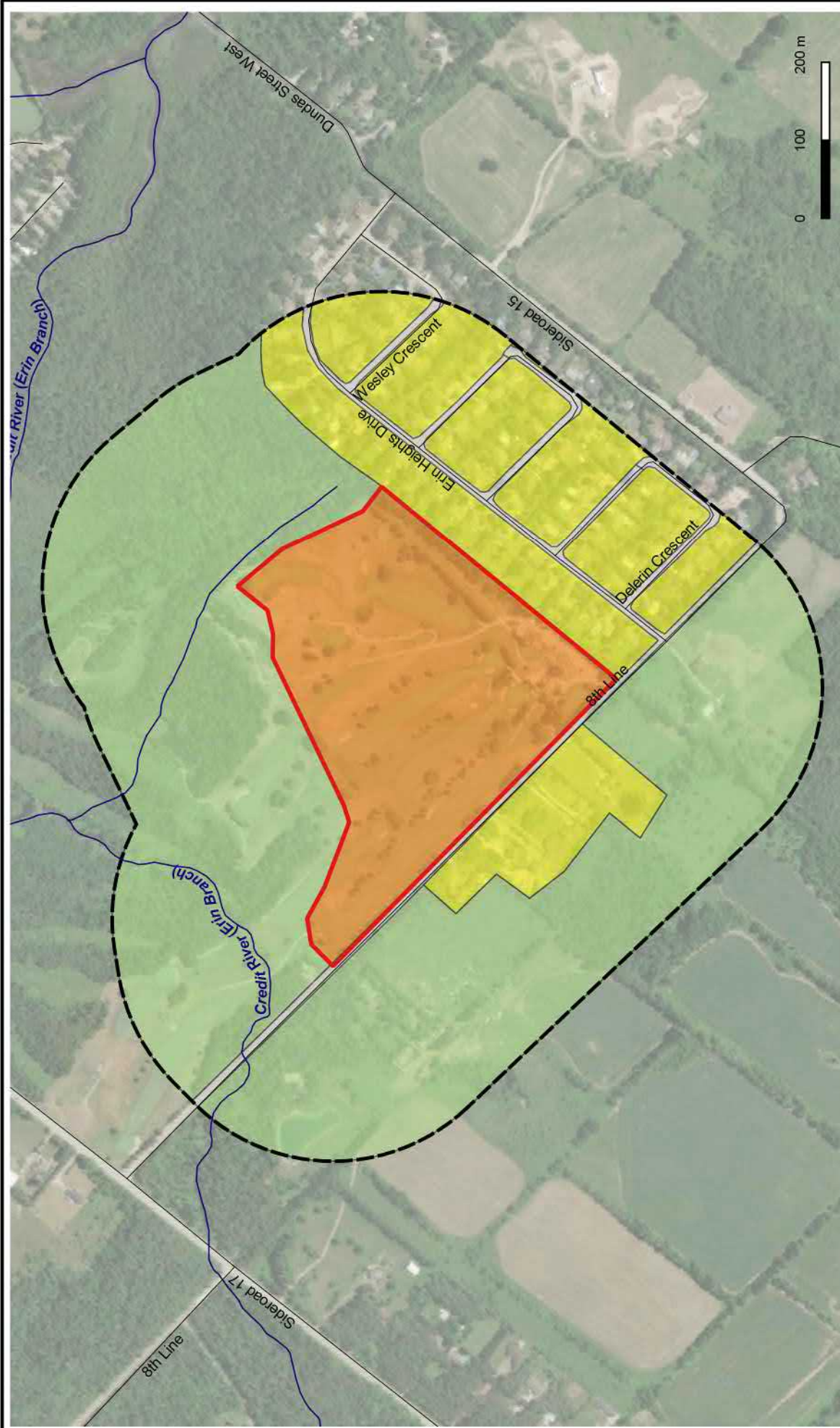
Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title: **PHASE TWO PROPERTY SITE PLAN**






Size:	Approved By:	K.C	Drawn By:	S.Y	Date:	June 2021
8.5 x 11	Scale:	As Shown	Project No.:	21-129-300	Figure No.:	2

Rev:	Image/Map Source: Esri Satellite Image
0	



Legend

-  Approx Property Boundary
-  Residential
-  Commercial
-  Open Space

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Client:

EMPIRE COMMUNITIES

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title: PHASE ONE STUDY AREA

Size: 8.5 x 11

Rev: 0

Approved By: K.C

Drawn By: S.Y

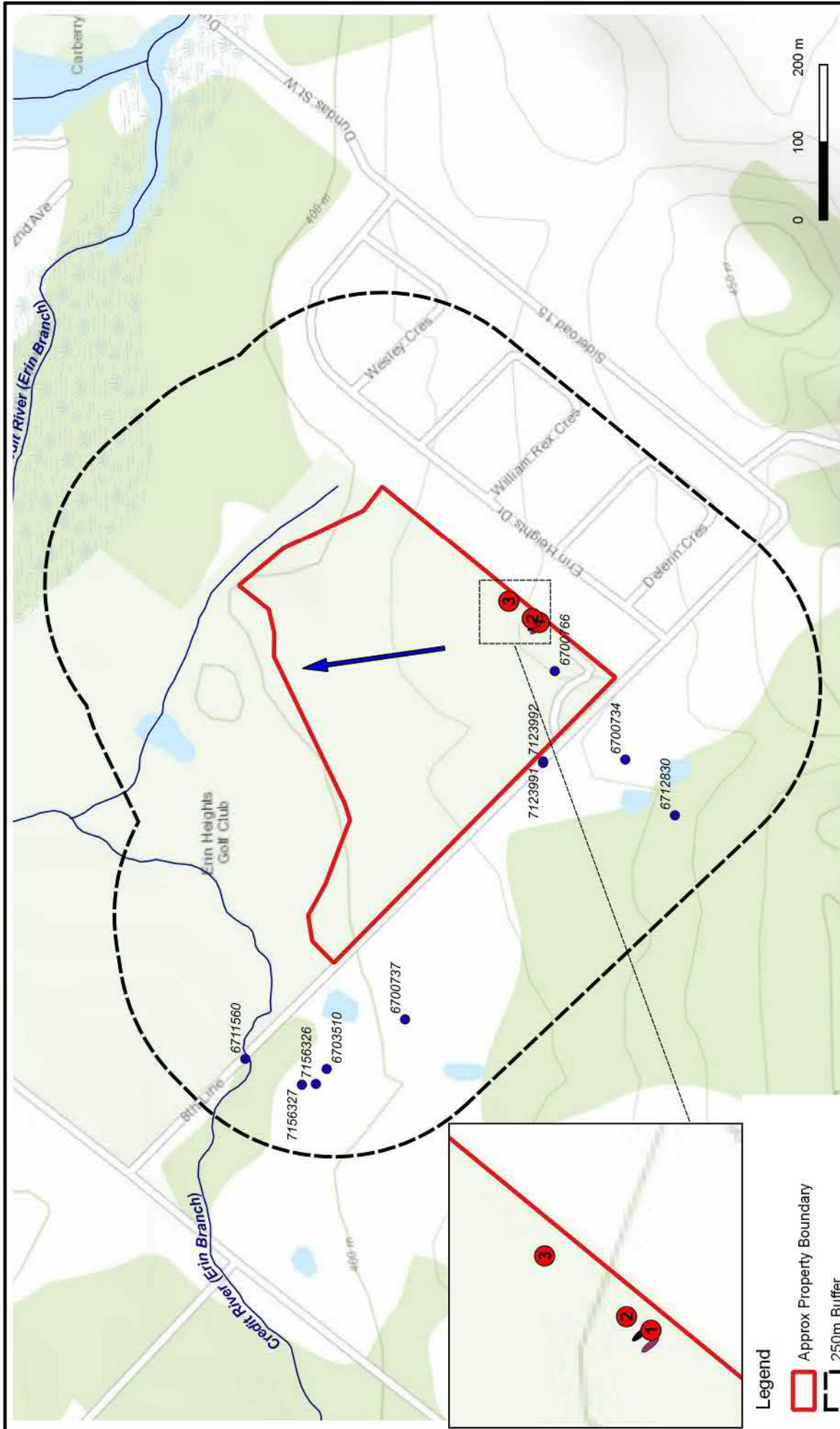
Date: June 2021

Scale: As Shown

Project No.: 21-129-300

Figure No.: 3

Image/Map Source: Esri Satellite Image



Legend

- Approx Property Boundary
- 250m Buffer
- Inferred Groundwater Flow Direction
- Registered Water Well (MECP WWR)
- PCA contributing to APEC
- PCA not contributing to APEC
- Diesel AST
- Gasoline AST

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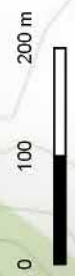
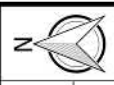


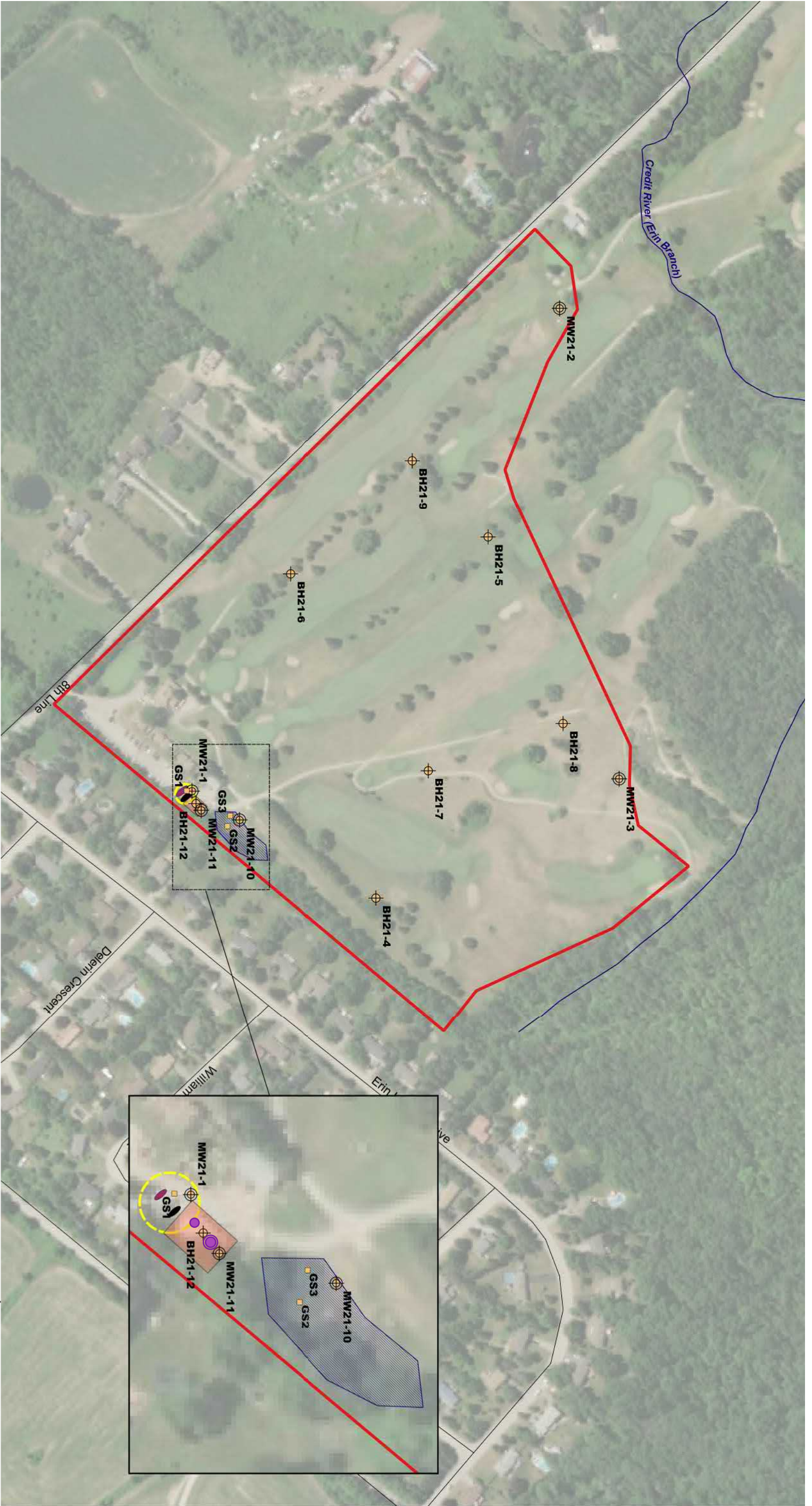
Client: **EMPIRE COMMUNITIES**

Project: **PHASE TWO ENVIRONMENTAL SITE ASSESSMENT**
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title: **PCA WITHIN PHASE ONE STUDY AREA**

Size:	8.5 x 11	Approved By:	K.C	Drawn By:	S.Y	Date:	June 2021
Rev:	0	Scale:	As Shown	Project No.:	21-129-300	Figure No.:	4
Image/Map Source: Esri Topo Map							





- Legend**
- Approx. Property Boundary
 - Borehole
 - Monitoring Well
 - Grab Sample
 - Diesel AST
 - Gasoline AST
 - APEC 1
 - APEC 2
 - APEC 3

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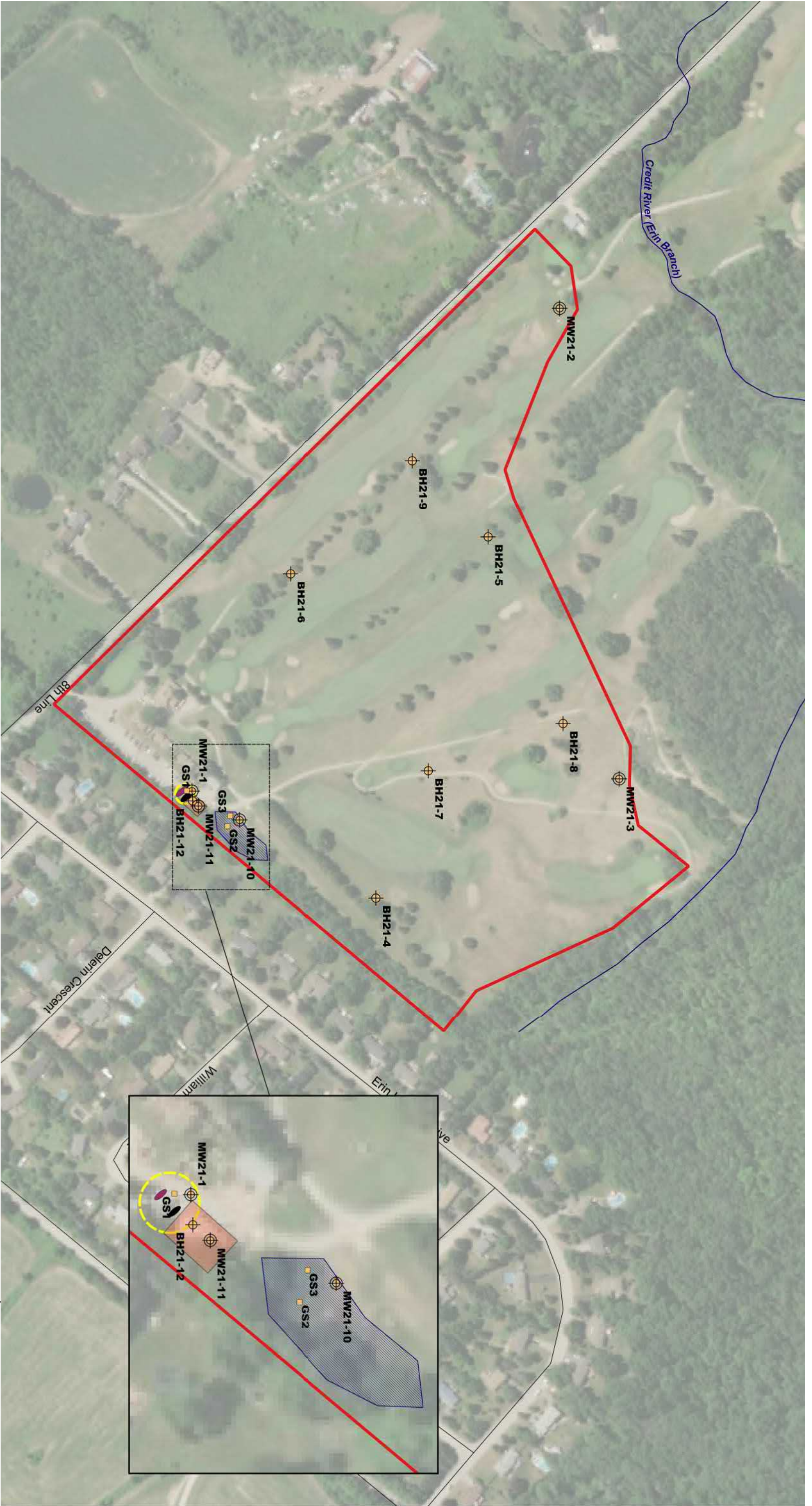
EMPIRE COMMUNITIES

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title: BOREHOLE LOCATION PLAN WITH APECs



Client:	EMPIRE COMMUNITIES		
Size:	11x17	Approved By:	K.C
Rev:	0	Scale:	As Shown
Project No.:	21-129-300	Drawn By:	S.Y
Figure No.:	5	Date:	June 2021
Image/Map Source: Google Satellite Image			



- Legend**
- Approx. Property Boundary
 - Borehole
 - Monitoring Well
 - Grab Sample
 - Diesel AST
 - Gasoline AST
 - APEC 1
 - APEC 2
 - APEC 3

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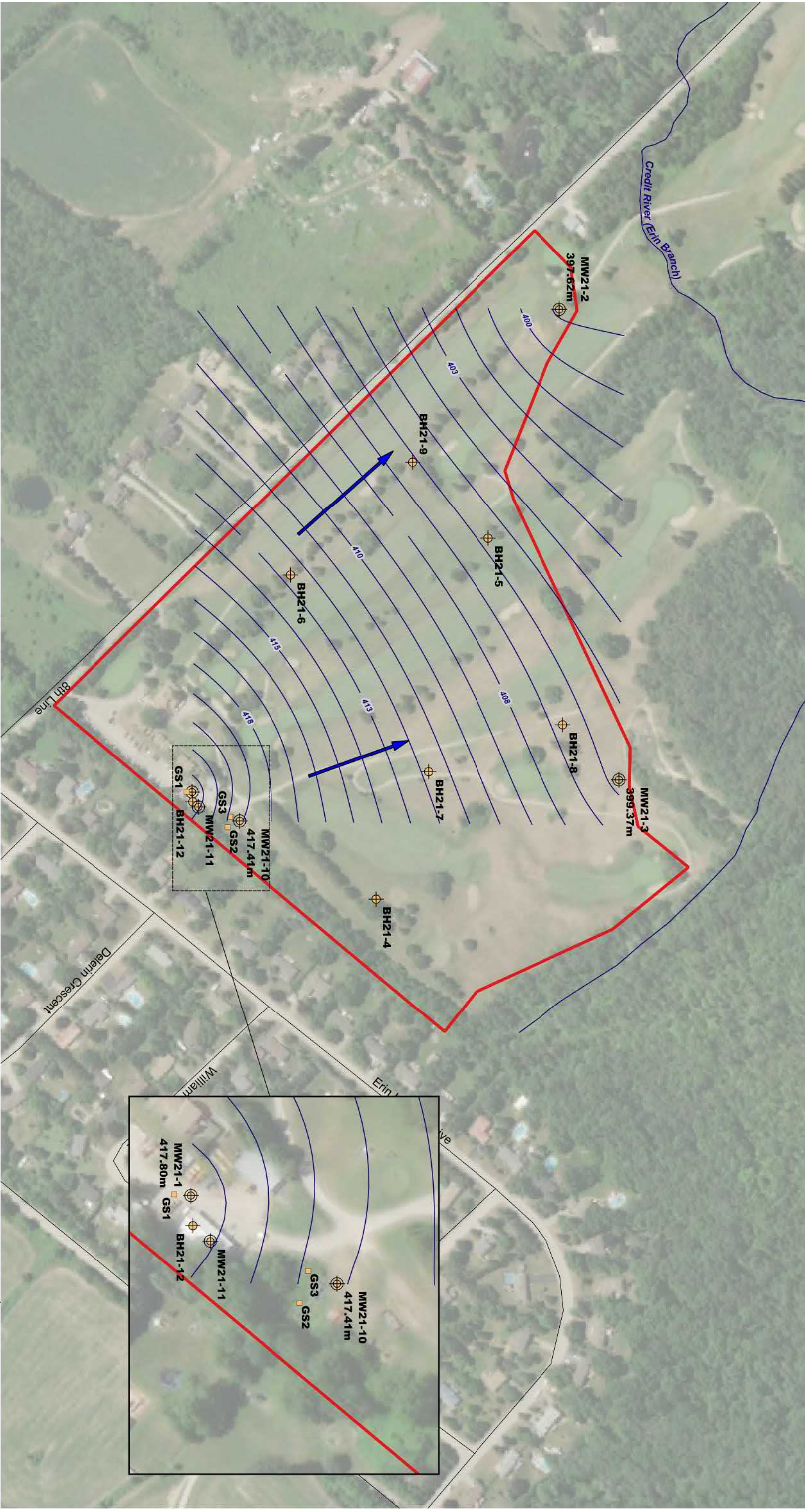
Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title: BOREHOLE LOCATION PLAN WITH APECs



Client:	Size:	Approved By:	Drawn By:	S.Y.	Date:
EMPIRE COMMUNITIES	11x17	K.C			June 2021
Rev:	Scale:	As Shown	Project No.:	21-129-300	Figure No.:
0					5

Image/Map Source: Google Satellite Image



- Legend**
- Approx. Property Boundary
 - Borehole
 - Monitoring Well
 - Grab Sample
 - Groundwater Elevation Contour
 - Groundwater Flow Direction



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Client:

EMPIRE COMMUNITIES

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title:

GROUNDWATER ELEVATION CONTOURS AND FLOW DIRECTION



Size:

11x17

Approved By:

K.C

Drawn By:

S.Y

Date:

June 2021

Scale:

As Shown

Project No.:

21-129-300

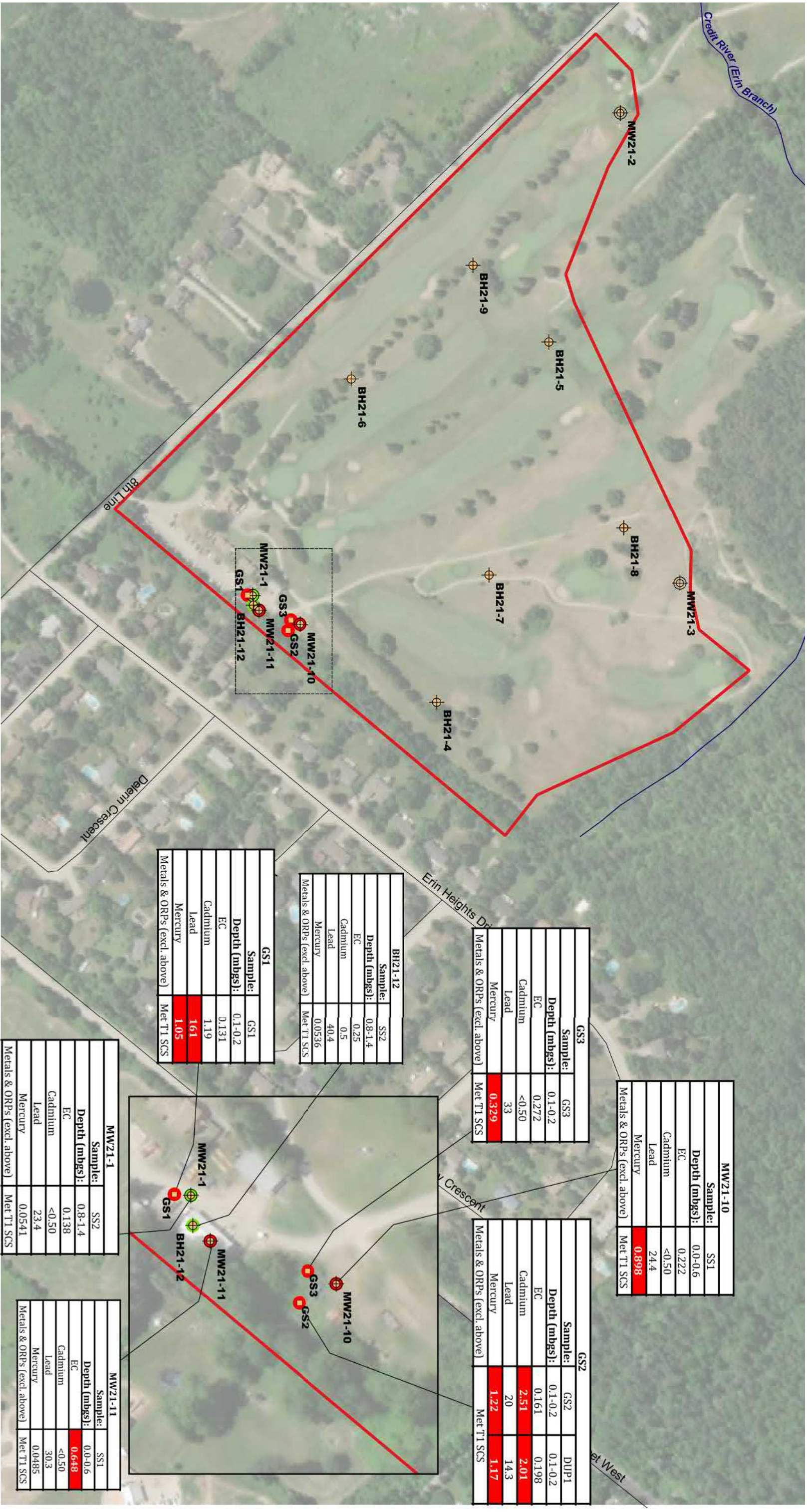
Figure No.:

6

Rev:

0

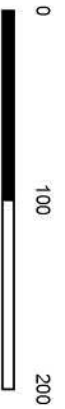
Image/Map Source: Google Satellite Image



Legend

- Approx. Property Boundary
- Borehole
- Monitoring Well
- Grab Sample
- Sample Met Applicable Standards
- Sample Exceeds Applicable Standards

Parameter	Table 1 SCS
EC	0.57
Cadmium	1.2
Lead	120
Mercury	0.27




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EMPIRE COMMUNITIES

Client:

Project:
 PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

SOIL CHARACTERIZATION – METALS AND ORPs



BH21-12	
Sample:	SS2
Depth (mbgs):	0.8-1.4
EC	0.25
Cadmium	0.5
Lead	40.4
Mercury	0.0536
Metals & ORPs (excl. above)	
Met T1 SCS	

GSS1	
Sample:	GSS1
Depth (mbgs):	0.1-0.2
EC	0.131
Cadmium	1.19
Lead	161
Mercury	1.05
Metals & ORPs (excl. above)	
Met T1 SCS	

GSS3	
Sample:	GSS3
Depth (mbgs):	0.1-0.2
EC	0.272
Cadmium	<0.50
Lead	33
Mercury	0.329
Metals & ORPs (excl. above)	
Met T1 SCS	

MW21-10	
Sample:	SS1
Depth (mbgs):	0.0-0.6
EC	0.222
Cadmium	<0.50
Lead	24.4
Mercury	0.898
Metals & ORPs (excl. above)	
Met T1 SCS	

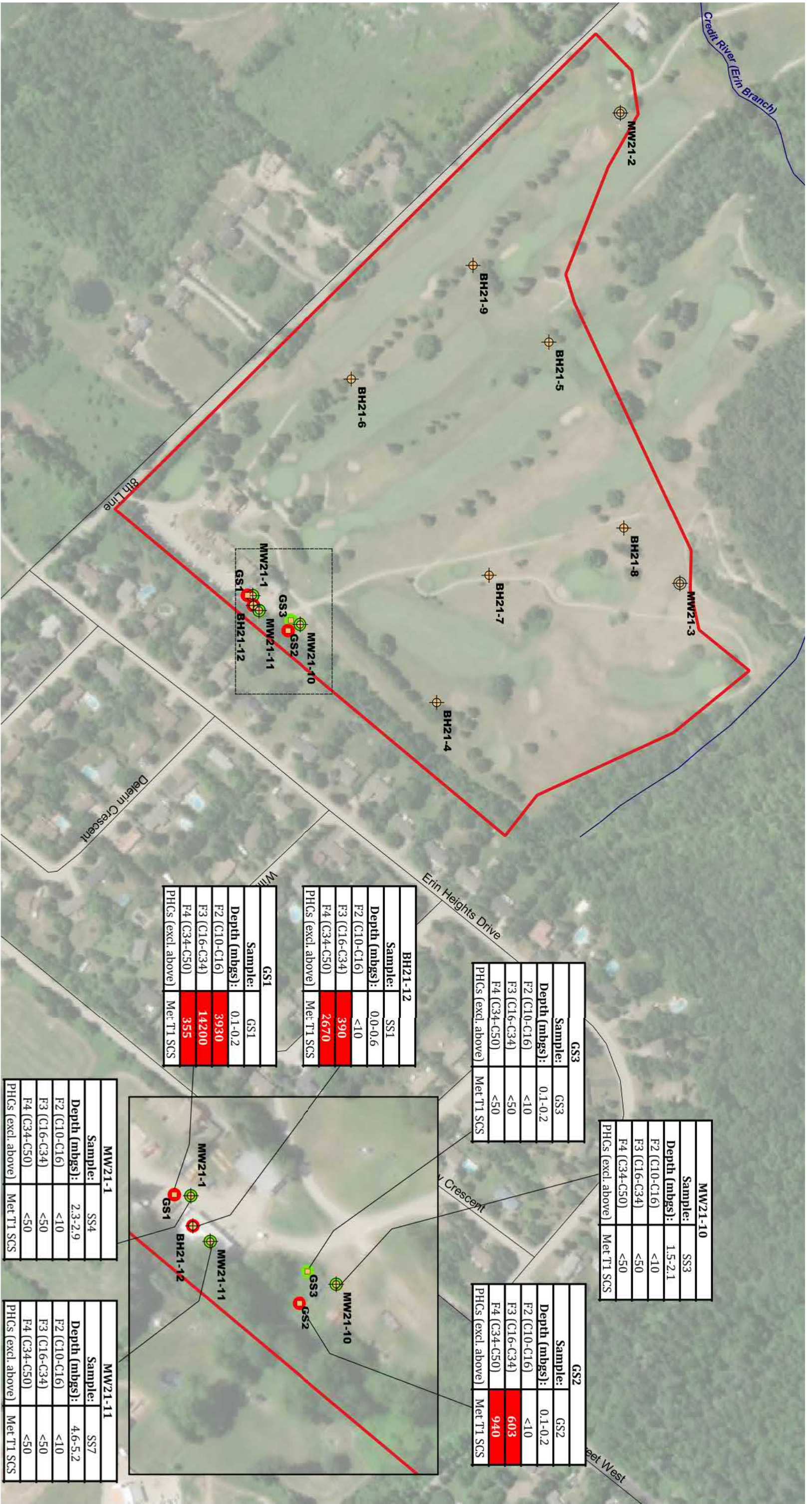
GSS2		DUP1	
Sample:	GSS2		
Depth (mbgs):	0.1-0.2	0.1-0.2	0.1-0.2
EC	0.161	0.198	
Cadmium	2.51	2.01	
Lead	20	14.3	
Mercury	1.22	1.17	
Metals & ORPs (excl. above)		Met T1 SCS	

MW21-11	
Sample:	SS2
Depth (mbgs):	0.8-1.4
EC	0.138
Cadmium	<0.50
Lead	23.4
Mercury	0.0541
Metals & ORPs (excl. above)	
Met T1 SCS	

MW21-12	
Sample:	SS1
Depth (mbgs):	0.0-0.6
EC	0.648
Cadmium	<0.50
Lead	30.3
Mercury	0.0485
Metals & ORPs (excl. above)	
Met T1 SCS	

Size: 11x17
Rev: 0
Approved By: K.C
Scale: As Shown
Image/Map Source: Google Satellite Image

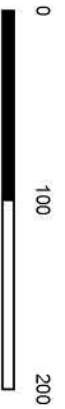
Drawn By: S.Y
Project No.: 21-129-300
Date: June 2021
Figure No.: 7A



Legend

- Approx. Property Boundary
- Borehole
- Monitoring Well
- Grab Sample
- Sample Met Applicable Standards
- Sample Exceeds Applicable Standards

Parameter	Table 1 SCS
F2 (C10-C16)	10
F3 (C16-C34)	240
F4 (C34-C50)	120




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EMPIRE COMMUNITIES

Project:
 PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title:
 SOIL CHARACTERIZATION – PHCs

Client:
 EMPIRE COMMUNITIES

Size: 11x17
Rev: 0

Approved By: K.C
Drawn By: S.Y
Date: June 2021

Scale: As Shown
Project No.: 21-129-300
Figure No.: 7B

MW21-10	
Sample:	SS3
Depth (mbgs):	1.5-2.1
F2 (C10-C16)	<10
F3 (C16-C34)	<50
F4 (C34-C50)	<50
PHCs (excl. above)	Met T1 SCS

GS3	
Sample:	GS3
Depth (mbgs):	0.1-0.2
F2 (C10-C16)	<10
F3 (C16-C34)	<50
F4 (C34-C50)	<50
PHCs (excl. above)	Met T1 SCS

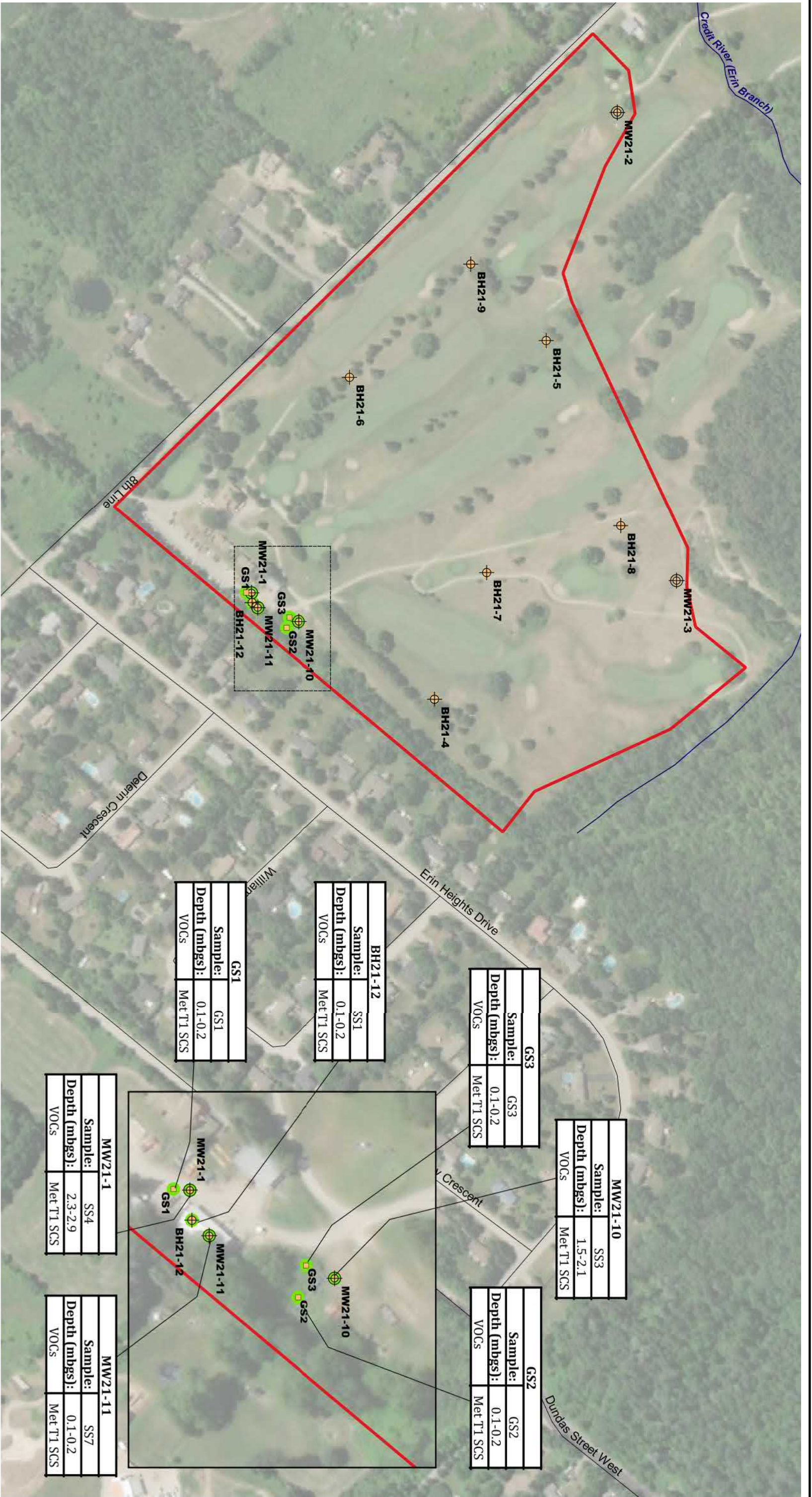
GS2	
Sample:	GS2
Depth (mbgs):	0.1-0.2
F2 (C10-C16)	<10
F3 (C16-C34)	603
F4 (C34-C50)	940
PHCs (excl. above)	Met T1 SCS

BH21-12	
Sample:	SS1
Depth (mbgs):	0.0-0.6
F2 (C10-C16)	<10
F3 (C16-C34)	390
F4 (C34-C50)	2670
PHCs (excl. above)	Met T1 SCS

GS1	
Sample:	GS1
Depth (mbgs):	0.1-0.2
F2 (C10-C16)	3930
F3 (C16-C34)	14200
F4 (C34-C50)	355
PHCs (excl. above)	Met T1 SCS

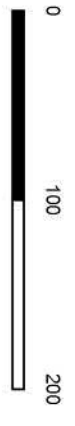
MW21-1	
Sample:	SS4
Depth (mbgs):	2.3-2.9
F2 (C10-C16)	<10
F3 (C16-C34)	<50
F4 (C34-C50)	<50
PHCs (excl. above)	Met T1 SCS

MW21-11	
Sample:	SS7
Depth (mbgs):	4.6-5.2
F2 (C10-C16)	<10
F3 (C16-C34)	<50
F4 (C34-C50)	<50
PHCs (excl. above)	Met T1 SCS



Legend

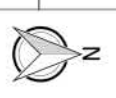
- Approx. Property Boundary
- ⊕ Borehole
- ⊕ Monitoring Well
- Grab Sample
- Sample Met Applicable Standards



EMPIRE COMMUNITIES

Project:
 PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title:
 SOIL CHARACTERIZATION – VOCs



Client:	Size:	Approved By:	Drawn By:	S.Y	Date:
EMPIRE COMMUNITIES	11x17	K.C			June 2021
Rev:	Scale:	As Shown	Project No.:	21-129-300	Figure No.:
0					7C

BH21-12	Sample:	SS1
	Depth (mbgs):	0.1-0.2
	VOCs	Met T1 SCS

BH21-10	Sample:	SS3
	Depth (mbgs):	1.5-2.1
	VOCs	Met T1 SCS

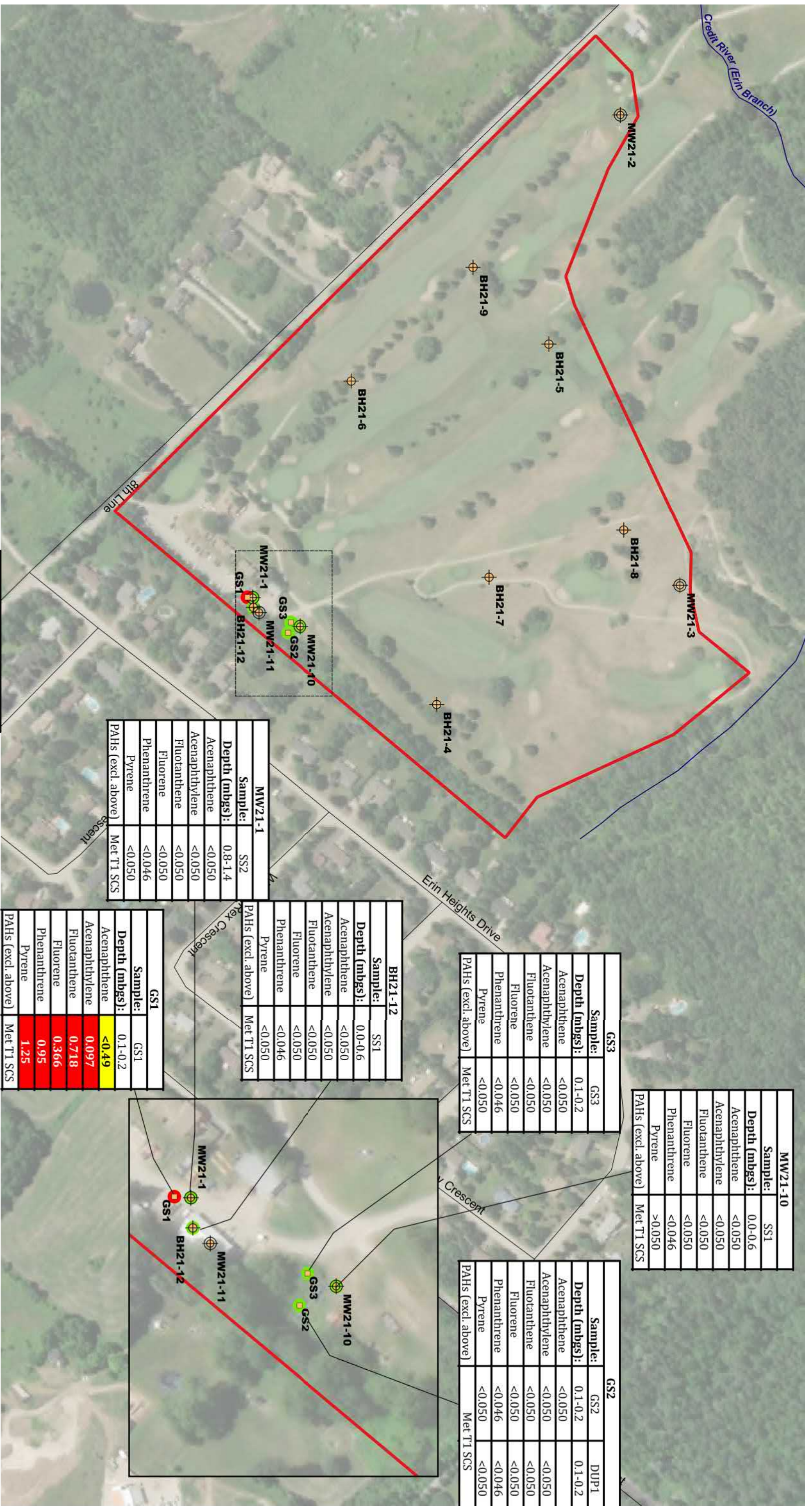
GS3	Sample:	GS3
	Depth (mbgs):	0.1-0.2
	VOCs	Met T1 SCS

GS2	Sample:	GS2
	Depth (mbgs):	0.1-0.2
	VOCs	Met T1 SCS

MW21-1	Sample:	SS4
	Depth (mbgs):	2.3-2.9
	VOCs	Met T1 SCS

MW21-11	Sample:	SS7
	Depth (mbgs):	0.1-0.2
	VOCs	Met T1 SCS

GS1	Sample:	GS1
	Depth (mbgs):	0.1-0.2
	VOCs	Met T1 SCS



MW21-10	
Sample:	SS1
Depth (mbs):	0.0-0.6
Acenaphthene	<0.050
Acenaphthylene	<0.050
Fluoranthene	<0.050
Fluorene	<0.050
Phenanthrene	<0.046
Pyrene	>0.050
PAHs (excl. above)	Met T1 SCS

GS3	
Sample:	GS3
Depth (mbs):	0.1-0.2
Acenaphthene	<0.050
Acenaphthylene	<0.050
Fluoranthene	<0.050
Fluorene	<0.050
Phenanthrene	<0.046
Pyrene	<0.050
PAHs (excl. above)	Met T1 SCS

GS2		DUP1	
Sample:	GS2		
Depth (mbs):	0.1-0.2	0.1-0.2	
Acenaphthene	<0.050	<0.050	
Acenaphthylene	<0.050	<0.050	
Fluoranthene	<0.050	<0.050	
Fluorene	<0.050	<0.050	
Phenanthrene	<0.046	<0.046	
Pyrene	<0.050	<0.050	
PAHs (excl. above)	Met T1 SCS		

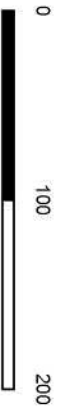
BH21-12	
Sample:	SS1
Depth (mbs):	0.0-0.6
Acenaphthene	<0.050
Acenaphthylene	<0.050
Fluoranthene	<0.050
Fluorene	<0.050
Phenanthrene	<0.046
Pyrene	<0.050
PAHs (excl. above)	Met T1 SCS

MW21-1	
Sample:	SS2
Depth (mbs):	0.8-1.4
Acenaphthene	<0.050
Acenaphthylene	<0.050
Fluoranthene	<0.050
Fluorene	<0.050
Phenanthrene	<0.046
Pyrene	<0.050
PAHs (excl. above)	Met T1 SCS

GS1	
Sample:	GS1
Depth (mbs):	0.1-0.2
Acenaphthene	<0.49
Acenaphthylene	0.097
Fluoranthene	0.718
Fluorene	0.366
Phenanthrene	0.95
Pyrene	1.25
PAHs (excl. above)	Met T1 SCS

Parameter	Table 1 SCS
Acenaphthene	0.072
Acenaphthylene	0.093
Fluoranthene	0.56
Fluorene	0.12
Phenanthrene	0.69
Pyrene	1

- Legend**
- Approx. Property Boundary
 - Borehole
 - Monitoring Well
 - Grab Sample
 - Sample Met Applicable Standards
 - Sample Exceeds Applicable Standards
 - Detection Limit Exceeds Applicable Standards



EMPIRE COMMUNITIES

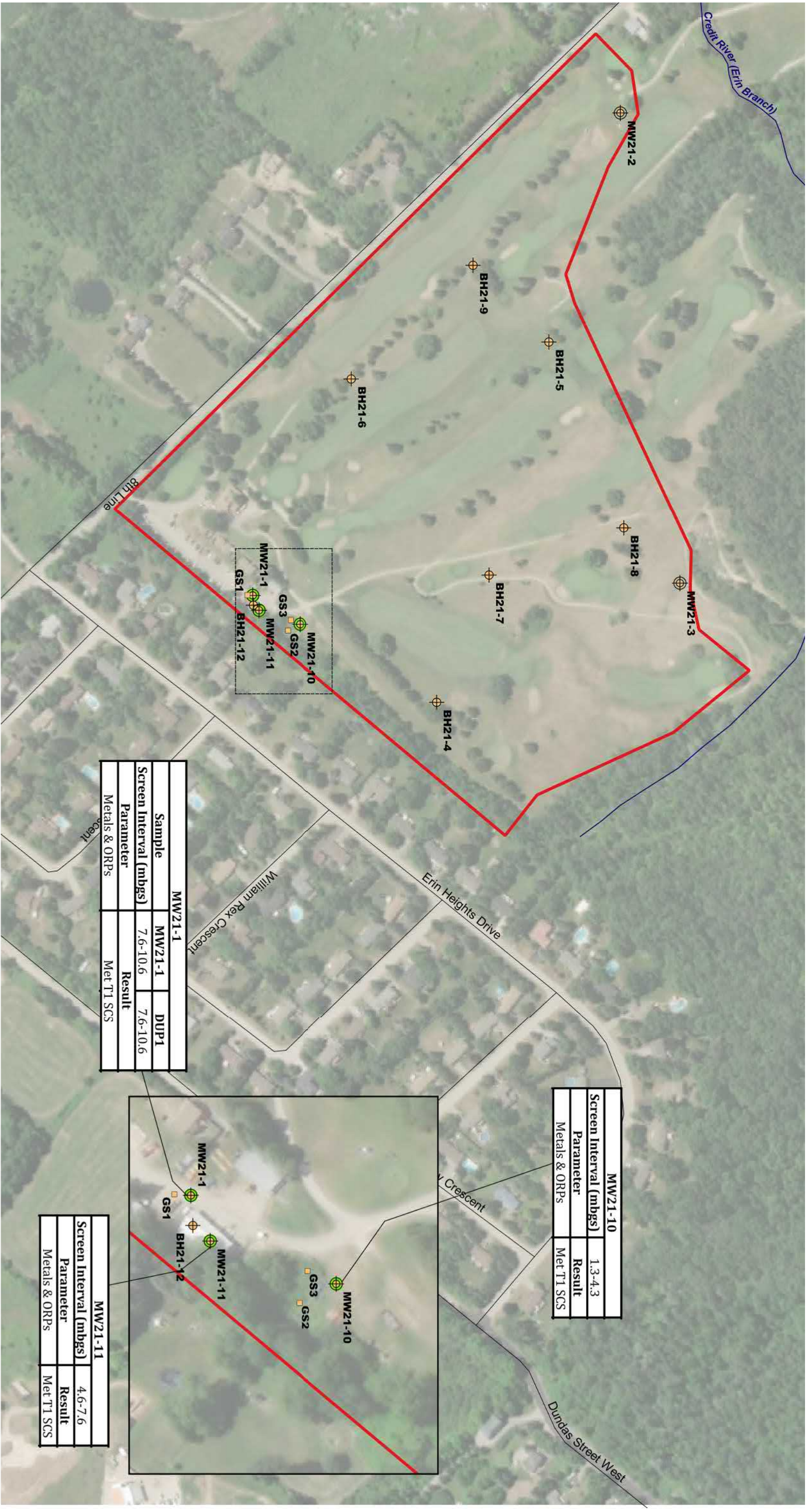
Project:
 PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title:
 SOIL CHARACTERIZATION – PAHs



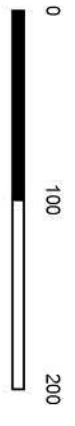
Client:	Size:	Approved By:	Drawn By:	S.Y.	Date:
EMPIRE COMMUNITIES	11x17	K.C			June 2021
Rev:	Scale:	As Shown	Project No.:	21-129-300	Figure No.:
0					7D

Image/Map Source: Google Satellite Image



Legend

- Approx. Property Boundary
- ⊕ Borehole
- ⊕ Monitoring Well
- Grab Sample
- Sample Met Applicable Standards

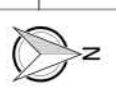


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EMPIRE COMMUNITIES

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title: GROUNDWATER CHARACTERIZATION – METALS AND ORPs



Sample	MW21-1	DUP1
Screen Interval (mbgs)	7.6-10.6	7.6-10.6
Parameter	Result	
Metals & ORPs	Met T1 SCS	

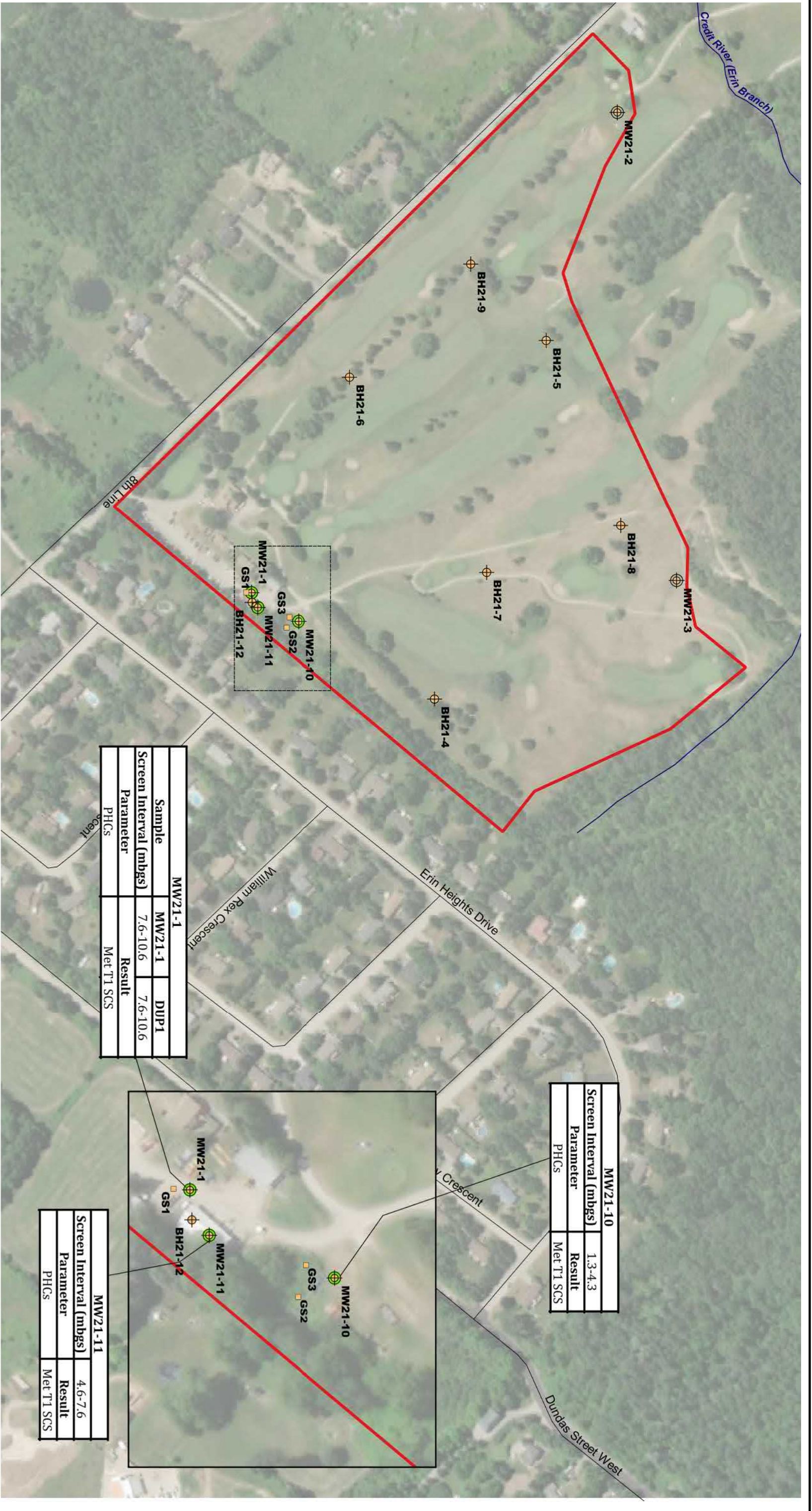
Screen Interval (mbgs)	1.3-4.3
Parameter	Result
Metals & ORPs	Met T1 SCS

Screen Interval (mbgs)	4.6-7.6
Parameter	Result
Metals & ORPs	Met T1 SCS



Client:	Size:	Approved By:	Drawn By:	S.Y	Date:
EMPIRE COMMUNITIES	11x17	K.C			June 2021
Rev:	Scale:	As Shown	Project No.:	21-129-300	Figure No.:
0					8A

Image/Map Source: Google Satellite Image



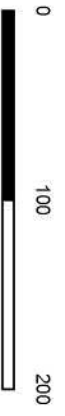
MW21-10	
Screen Interval (mbgs)	1.3-4.3
Parameter	Result
PHCs	Met T1 SCS

MW21-11	
Screen Interval (mbgs)	4.6-7.6
Parameter	Result
PHCs	Met T1 SCS

MW21-1		
Sample	MW21-1	DUP1
Screen Interval (mbgs)	7.6-10.6	7.6-10.6
Parameter	Result	
PHCs	Met T1 SCS	

Legend

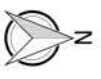
- Approx. Property Boundary
- ⊕ Borehole
- ⊕ Monitoring Well
- Grab Sample
- Sample Met Applicable Standards



EMPIRE COMMUNITIES

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title: GROUNDWATER CHARACTERIZATION – PHCs

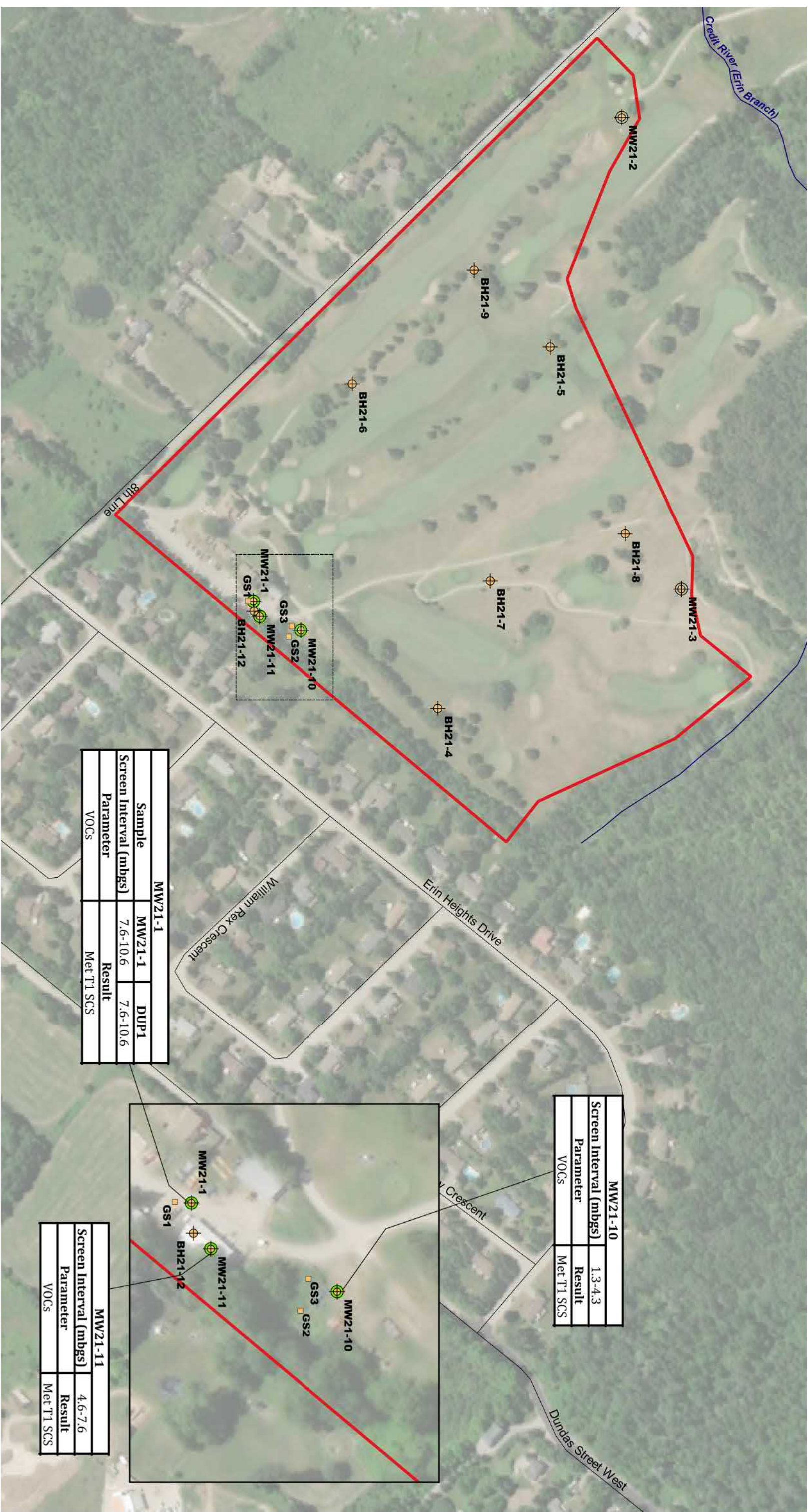


Client: EMPIRE COMMUNITIES

Size: 11x17
Approved By: K.C
Drawn By: S.Y
Date: June 2021

Rev: 0
Scale: As Shown
Project No.: 21-129-300
Figure No.: 8B

Image/Map Source: Google Satellite Image



Sample	MW21-1	DUP1
Screen Interval (mbgs)	7.6-10.6	7.6-10.6
Parameter		Result
VOCs		Met T1 SCS

Screen Interval (mbgs)	1.3-4.3
Parameter	Result
VOCs	Met T1 SCS

Screen Interval (mbgs)	4.6-7.6
Parameter	Result
VOCs	Met T1 SCS



EMPIRE COMMUNITIES

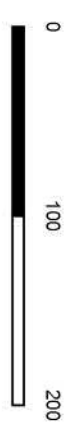
Project:
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title:
GROUNDWATER CHARACTERIZATION – VOCs



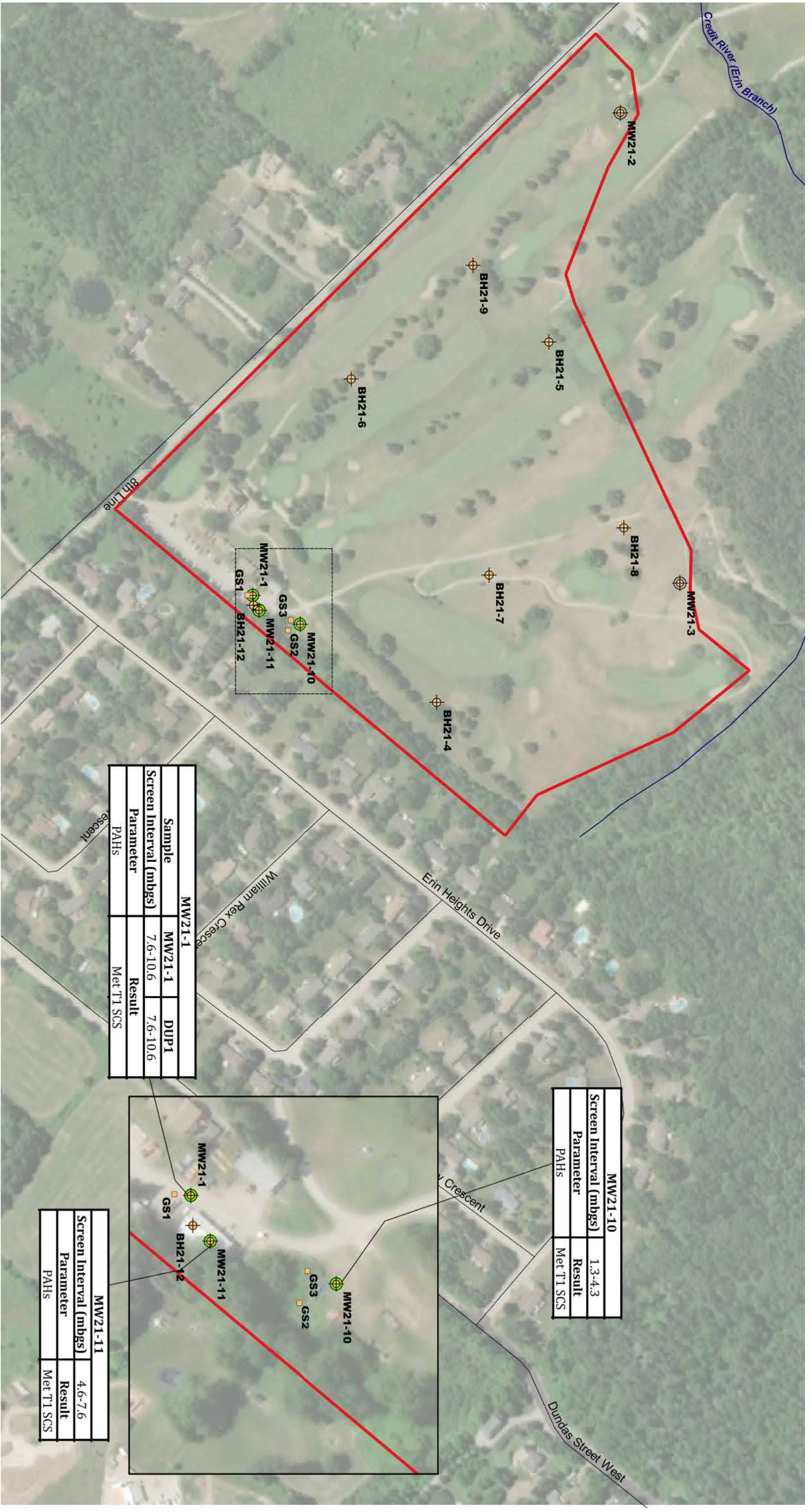
Legend

- Approx. Property Boundary
- ⊕ Borehole
- ⊕ Monitoring Well
- Grab Sample
- Sample Met Applicable Standards

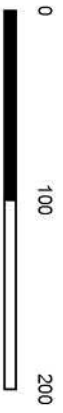


Client:	Size:	Approved By:	Drawn By:	S.Y	Date:
EMPIRE COMMUNITIES	11x17	K.C			June 2021
Rev:	Scale:	As Shown	Project No.:	21-129-300	Figure No.:
0					8C

Image/Map Source: Google Satellite Image



- Legend**
- Approx. Property Boundary
 - ⊕ Borehole
 - ⊕ Monitoring Well
 - Grab Sample
 - Sample Met Applicable Standards



Sample	MW21-1	DUP1
Screen Interval (mbgs)	7.6-10.6	7.6-10.6
Parameter	PAHs	Result
	Met T1 SCS	

Screen Interval (mbgs)	1.3-4.3
Parameter	Result
PAHs	Met T1 SCS

Screen Interval (mbgs)	4.6-7.6
Parameter	Result
PAHs	Met T1 SCS



DS CONSULTANTS LTD.
 6221 Highway 7, UNIT 16
 Vaughan, Ontario L4H 0K8
 Telephone: (905) 264-9393
 www.dsconsultants.ca

Client: EMPIRE COMMUNITIES

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 Erin Heights Golf Course, 5525 8 Line, Erin, ON

Title: **GROUNDWATER CHARACTERIZATION – PAHs**



Size: 11x17
 Rev: 0

Approved By: K.C
 Scale: As Shown

Drawn By: S.Y
 Project No.: 21-129-300

Date: June 2021
 Figure No.: **8D**

Image/Map Source: Google Satellite Image



Appendix A

**PLAN OF SURVEY AND TOPOGRAPHY
OF PART OF LOT 19,
REGISTRAR'S COMPILED PLAN 686
(FORMERLY VILLAGE OF ERIN)
TOWN OF ERIN
COUNTY OF WELLINGTON**

SCALE 1:750
R-PE SURVEYING LTD., O.L.S.
DISTANCES AND COORDINATES SHOWN ON THIS PLAN
ARE IN METRES AND CAN BE CONVERTED TO FEET BY
DIVIDING BY 0.3048.

BENCHMARK NOTE

ELEVATIONS ARE GEODETIC AND ARE REFERRED TO FIRST ORDER VERTICAL BENCHMARK NUMBER 00819798463 HAVING AN ORTHOMETRIC ELEVATION OF 394.056 METRES. ELEVATIONS ARE REFERENCED TO THE CANADIAN GEODETIC VERTICAL DATUM OF 1928, 1978 ADJUSTMENT (CGVD-1928:1978).

TABLET SET HORIZONTALLY IN THE NORTH FACE OF THE CONCRETE FOUNDATION OF A GREY BUILDING (GREENING DONALD CO LTD) ON THE EAST SIDE OF HWY 24, 1.55 KM NORTH OF THE POST OFFICE AT ERIN, 0.30 KM SOUTH OF WELLINGTON CITY RD 23 AND 109.5 M EAST OF THE CENTRELINE OF HWY 24, 1.52 M WEST OF N.E. CORNER OF SAID BUILDING, 7 CM BELOW CONCRETE SIDING AND 7 CM ABOVE GROUND LEVEL.

INTEGRATION NOTE

BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS (A), (B), (C) AND D USING CANNET REAL TIME NETWORK (RTN) No. PRS262047042104, UTM ZONE 17, NAD83 (CSRS) (CBNV6-2010.0)

COORDINATES ARE UTM ZONE 17, NAD83 (CSRS) (CBNV6-2010.0), TO URBAN ACCURACY PER SEC. 14 (2) OF O. REG. 216/10, AND CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.9996116.

POINT ID	NORTHING	EASTING
ORP (A)	4846402.20	573401.74
ORP (B)	4846807.71	573343.54
ORP (C)	4846916.54	573818.94
RTN PRS262047042104	4849491.52	574945.16

NOTES

- DENOTES MONUMENT FOUND
- ▣ DENOTES STANDARD IRON BAR
- ▢ DENOTES SHORT STANDARD IRON BAR
- ▧ DENOTES IRON BAR
- DENOTES OBSERVED REFERENCE POINT
- P.I.N. DENOTES PROPERTY IDENTIFIER NUMBER
- PL1 DENOTES PLAN 61R-21828
- PL2 DENOTES PLAN 61R-5882
- PL3 DENOTES PLAN REGISTERED PLAN 652
- (VH) DENOTES VAN HARTEN SURVEYING INC., O.L.S. (1254)
- DENOTES CLIPSHAM LTD., O.L.S.

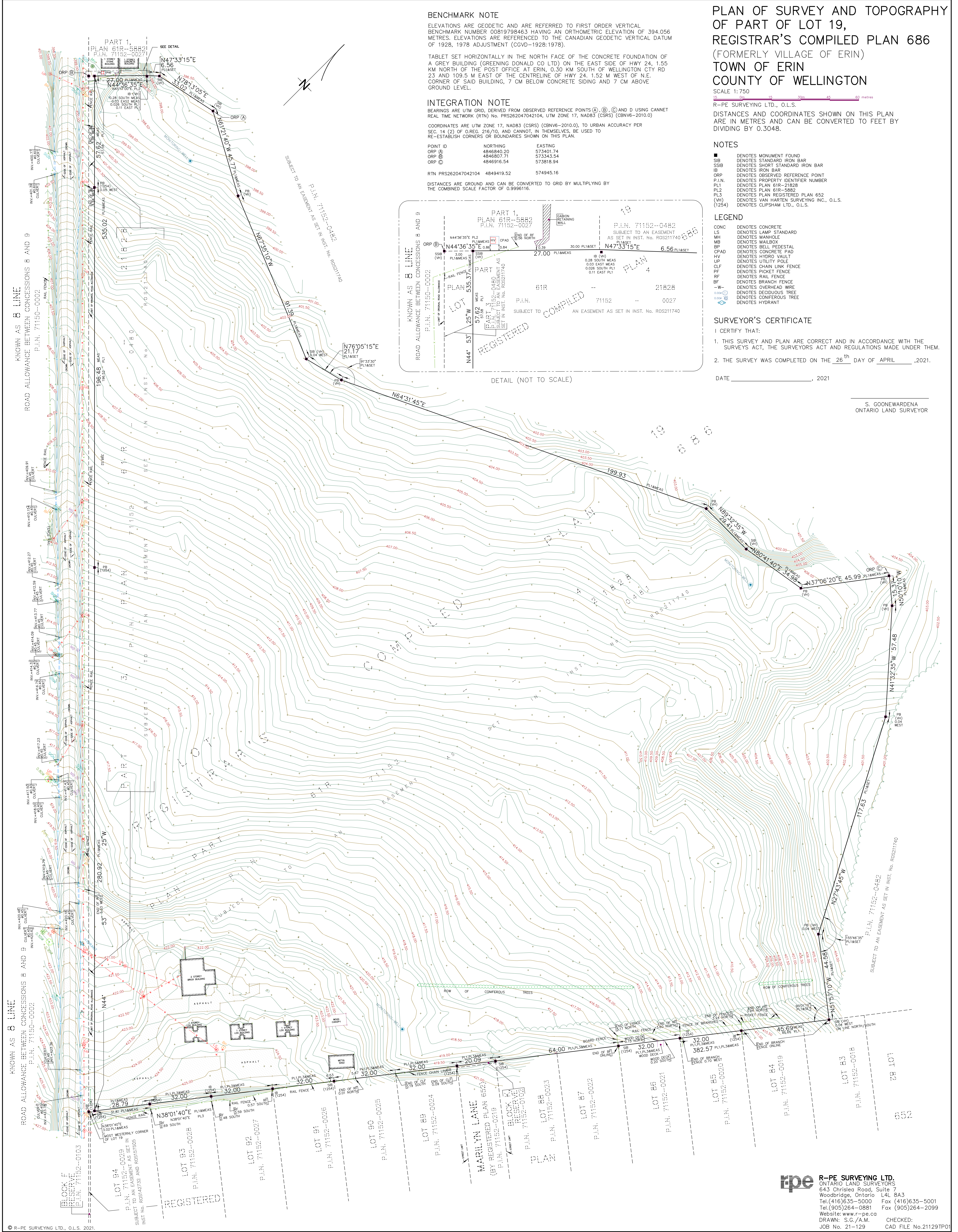
LEGEND

- CONC DENOTES CONCRETE
- LS DENOTES LAMP STANDARD
- MH DENOTES MANHOLE
- MB DENOTES MAILBOX
- SP DENOTES BELL PEDESTAL
- CPAD DENOTES CONCRETE PAD
- HV DENOTES HYDRO VAULT
- UP DENOTES UTILITY POLE
- CLF DENOTES CHAIN LINK FENCE
- PF DENOTES PICKET FENCE
- RF DENOTES RAIL FENCE
- BF DENOTES BRANCH FENCE
- W- DENOTES OVERHEAD WIRE
- DENOTES DECIDUOUS TREE
- DENOTES CONIFEROUS TREE
- DENOTES HYDRANT

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 26th DAY OF APRIL, 2021.
DATE _____, 2021

S. GOONEWARDENA
ONTARIO LAND SURVEYOR





Appendix B



P21-03-042

March 17, 2021

Empire Communities Ltd.

125 Villarboit Crescent

Vaughan, Ontario

L4K 4K2

via email: <mailto:jcastro@empirecommunities.com>

Attention: Mr. John Castro

Project Manager, Land Development

Re: Sampling and Analysis Plan – Phase Two Environmental Site Assessment

5525 8 Line, Erin, ON

1. Introduction

DS Consultants Limited (DS) is pleased to present the Sampling and Analysis Plan (SAP) for the proposed Phase Two Environmental Site Assessment of 5525 8 Line, Erin, ON (the Site). The purpose of the proposed Phase Two ESA program is to assess the current subsurface environmental conditions in support of the proposed redevelopment of the Site.

The Phase Two ESA will involve intrusive investigation in the areas determined in the Site visit to be Areas of Potential Environmental Concern (APECs), and will be completed in general accordance with O.Reg 153/04. Based on the findings of the field and laboratory analyses, a Phase Two ESA report will be prepared.

2. Background

Based on the Phase One Environmental Site Assessment completed by DS, it is DS's understanding that the Site is a 14.1355 hectare (34.9295 acres) parcel of land which is currently used for commercial purposes. The first developed use of the Site is interpreted to be Residential based on the findings of the Phase One ESA. A total of three (3) potentially contaminating activities were identified on the Phase One Property or on neighbouring properties within the Phase One Study Area which are considered to be contributing to Areas of Potential Environmental Concern (APECs) on the Phase Two Property. A summary of the APECs identified, the potential contaminants of concern, and the media potentially impacted is presented in Table 1 below:



Table 1: Areas of Potential Environmental Concern

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC-1	South-Central portion of the Site, west adjacent to the maintenance shop.	PCA-21: #28: Gasoline and Associated Products Storage in Fixed Tanks	On-Site	Metals, VOCs, PHCs, PAHs	Soil and Groundwater
APEC-2	South-Central portion of the Site.	PCA-32: #27: Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles	On-Site	Metals, VOCs, PHCs, PAHs	Soil and Groundwater
APEC-3	South-Central portion of the Site, east of the maintenance shop.	PCA-3: #49: Salvage Yard, including automobile wrecking	On-Site	Metals, VOCs, PHCs, PAHs	APEC-3

Notes:

1. PHC (F1-F4) = Petroleum Hydrocarbons in the F1-F4 fraction ranges
2. VOCs = Volatile Organic Compounds
3. PAHs = Polycyclic Aromatic Hydrocarbons

3. Site Investigation Program

The proposed field investigation will involve the advancement of boreholes, the installation of monitoring wells, and periodic monitoring of the installed wells. A total of four borehole locations have been identified. Details regarding the proposed boreholes/monitoring wells are provided in the following table:

Table 3-1: Summary of Proposed Investigation Program

ID	Proposed Depth	Well Installation (Y/N)	Well Install Depth	Purpose
MW21-1	6.1 mbgs	Y	6.1 mbgs	Investigate APEC-1
MW21-10	4.6 mbgs	Y	4.6 mbgs	Investigate APEC-3
MW21-11	6.1 mbgs	Y	6.1 mbgs	Investigate APEC-2
BH21-12	1.5 mbgs	N	4.6 mbgs	Investigate APEC-2

Prior to mobilizing a drilling rig, we will lay out the proposed borehole and clear the buried utilities and services by using Ontario One Call System in addition to private utility locates.

The borings will be advanced to the indicated depths using a track mounted continuous flight auger machine and portable drilling equipment for MW21-1 and MW21-10 and a limited access equipment



for MW21-11 and BH21-12. Samples will be retrieved by means of a 50 mm O.D. split-spoon barrel sampler at 0.75 metre intervals in the upper 3 metres and at 1.5 metres intervals below this level. The monitoring wells will be constructed using 50 mm I.D. PVC pipe, equipped with 3.1 m slotted screens and finished at the ground surface with flush mount well casings. A geodetic benchmark will be used to establish the elevation of each borehole. Drilling and sampling will conform to standard practice.

The Phase Two ESA involves the following principal tasks:

- Preparation of a sampling and analysis plan in accordance with the requirements of O.Reg.153/04 (as amended);
- Retain the services of public and private utility locaters to identify the locations of buried and overhead utility services prior to any excavation or demolition activities;
 - Certain underground utilities (such as those constructed or encased in plastic, fibreglass, clay, concrete pipe, untraceable cast iron, steel, and/or repaired services) cannot be traced by standard locating practices. DS will review all available Site Plans and/or “As Built” figures in an attempt to identify the locations of potential untraceable services. DS will not be held responsible for any damages to utility services that are not on the figures provided or cannot be located by standard utility locating practices;
- Geotechnical completed for the geotechnical investigation will be utilized for environmental sampling. Three (3) of the geotechnical boreholes will be instrumented with groundwater monitoring wells and screened to intersect the groundwater table. The proposed boreholes will be used to facilitate the collection of representative soil and groundwater samples, and to provide information regarding the Site-specific geological and hydrogeological conditions. The monitoring wells will be constructed using 50 mm I.D. PVC pipe, equipped with 3.1m slotted screens, and finished at the ground surface with monument style well casings ;
- All soil samples recovered during the proposed drilling activities will be field screened for visual and olfactory evidence of deleterious impacts and for the presence of petroleum hydrocarbon (PHC) and volatile organic compound (VOC) derived vapours using either a combustible gas detector (CGD) calibrated to hexane or a photo-ionization detector (PID) calibrated to isobutylene or equivalent;
- Measure the depth to groundwater levels in the monitoring wells installed, and monitor the wells for the presence/absence of non-aqueous phase liquid using an interface probe;
- Survey each of the monitoring wells to a geodetic datum;



- Develop and purge all of the monitoring wells installed, and collect representative groundwater samples;
- Submit soil and groundwater samples from the newly advanced boreholes to a CALA accredited laboratory for the following analyses:

Table 3-2: Summary of proposed chemical analyses

Soil	Groundwater
<ul style="list-style-type: none">• 4 Samples for analysis of metals and other regulated parameters• 3 Samples for analysis of PHCs• 3 Samples for analysis of VOCs• 2 Samples for analysis of PAHs	<ul style="list-style-type: none">• 3 Samples for analysis of metals and inorganics• 3 Samples for analysis of PHCs• 3 Samples for analysis of VOCs• 1 Sample for analysis of PAHs• 1 VOC Trip Blank

- A Quality Assurance and Quality Control (QAQC) program will be implemented, involving the collection and analysis of duplicate soil and groundwater samples and trip blanks at the frequency specified under O.Reg. 153/04 (as amended);
- A Phase Two ESA Report will be prepared upon receipt of all analytical results and groundwater monitoring data. The Phase Two ESA Report will be completed in general accordance with O.Reg. 153/04 (as amended).

It should be noted that drilling activities may result in some disturbance to the ground surface at the site. Precautions will be taken by the drilling contractor to minimize any damage. The Client will be notified should there be cause to extend the borehole termination depth based on field observations. It is assumed that the site can be accessed at our convenience, during regular business hours. Prior notice will be sent to the client and site representative

It is noted that if the Phase Two ESA reveals parameter concentrations greater than the applicable standards set out in *Ontario Regulation 153/04*, then additional work (i.e., supplemental delineation, additional drilling, sampling, analysis, and/or site remediation activities) will be deemed necessary prior to RSC filing, should an RSC be required. The costs for any additional work, if necessary, are beyond the current scope of work.

The SAP was created based on the request to complete a Phase Two ESA in support of the proposed redevelopment of the Site. The SAP was compiled to collect data to provide information on soil and/or groundwater quality in each APEC.



Additional delineation may be required following the implementation of this SAP to meet the requirements of O.Reg. 153/04 which requires delineation of all areas where concentrations are above the applicable SCS such as in the following conditions:

- Unexpected contamination not previously discovered, or not related to identified APECs, is discovered which will require further delineation to identify source(s); and
- If the sampling results indicate that the soil and/or groundwater impacts are deeper than initially expected.

4. Closure

We trust that this Sampling and Analysis Plan meets the objectives of the Client. If further assistance is required on this matter please do not hesitate to contact the undersigned.

Yours Very Truly,

DS Consultants Ltd.

Keith Clarke, B.Sc.

Senior Project Manager - Environmental



Appendix C

PROJECT: Phase Two ESA, Erin Heights Golf Course CLIENT: Empire Communities PROJECT LOCATION: 5525 8 Line, Erin, ON DATUM: Geodetic DRILLING COMPANY: Kodiak Drilling N 4846540 E 573794	DRILLING DATA Method: Big Beaver rotary auger Diameter: 100mm Date: Apr-29-2021 REF. NO.: 21-129-300 ENCL NO.:
--	--

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE (ppm) AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			PID (ppm)	CGD (ppm)						
423.1	SILTY SAND: trace gravel, trace clay, brown, moist, compact		1	SS	24		423	20	25						GR SA SI CL
0.0			2	SS	28		422	20	25						PHCs, VOCs, PAHs
			3	SS	17										M&I
421.0			END OF BOREHOLE:												
2.1															

DS ENVIRO 0-50 PPM-2016 21-129-300 ERIN HEIGHTS BOREHOLE LOGS.GPJ_DS.GDT 21-6-23

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, × 3: Numbers refer to Sensitivity ○ ● = 3% Strain at Failure

PROJECT: Phase Two ESA, Erin Heights Golf Course
 CLIENT: Empire Communities
 PROJECT LOCATION: 5525 8 Line, Erin, ON
 DATUM: Geodetic
 DRILLING COMPANY: Davis Drilling Ltd. N 4846537 E 573786

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Apr-15-2021
 REF. NO.: 21-129-300
 ENCL NO.:

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	Soil Head Space Vapors			PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE (ppm) AND GRAIN SIZE DISTRIBUTION (%)		
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			PID (ppm)	CGD (ppm)	WATER CONTENT (%)							GR	SA
422.8	GRANULAR FILL: 50mm SILT AND SAND: trace gravel, trace clay, brown, moist, loose to compact		1	SS	9	Bentonite W. L. 417.8 m Apr 28, 2021	10	10	10						9	46	37	8
422.0			2	SS	15		422	20	20	20						M&I, PAHs		
420.7			3	SS	22		421	30	30	30						PHCs, VOCs		
2.1	SILTY SAND TILL: some gravel, some clay, cobble/boulder sizes, brown, moist, very dense		4	SS	76		420	35	35									
			5	SS	50/ 25mm		419	35	35									
			6	SS	50/ 50mm		418	35	35									
			7	SS	50/ 50mm		417	35	35									
			8	SS	87		415	35	35						11	45	31	13
			9	SS	50/ 25mm		413	35	35									
			10	SS	50/ 75mm		412	35	35									
11.0	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Reading: Date: April 28, 2021 Water Level (mbgs): 5.0																	

DS ENVIRO 0-50 PPM-2016 21-129-300 ERIN HEIGHTS BOREHOLE LOGS.GPJ_DS.GDT 21-6-23

GROUNDWATER ELEVATIONS
 Measurement

GRAPH NOTES + 3, x 3: Numbers refer to Sensitivity ○ = 3% Strain at Failure

PROJECT: Phase Two ESA, Erin Heights Golf Course
 CLIENT: Empire Communities
 PROJECT LOCATION: 5525 8 Line, Erin, ON
 DATUM: Geodetic
 DRILLING COMPANY: Davis Drilling Ltd. N 4846573 E 573806

DRILLING DATA
 Method: Hollow Stem Auger
 Diameter: 200mm
 Date: Apr-19-2021
 REF. NO.: 21-129-300
 ENCL NO.:

SOIL PROFILE			SAMPLES			Soil Head Space Vapors		PLASTIC LIMIT W _p	NATURAL MOISTURE CONTENT W	LIQUID LIMIT W _L	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE (ppm) AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION							PID (ppm)
419.1	GRANULAR FILL: 250mm												GR SA SI CL	
418.8	FILL: silty sand, some gravel, trace clay, brown, moist, loose to compact	[Cross-hatched pattern]	1	SS	10	Bentonite	419						M&I, PAHs	
0.3			2	SS	4		418							11 54 26 9
1			3	SS	23		417							
416.8	SILTY SAND: trace gravel, trace clay, brown, wet, loose						417.4							
2.3	SILTY SAND TILL: gravelly, brown to grey, moist, dense to very dense	[Dotted pattern]	4	SS	8	Filter Pack Slotted Pipe	417							
416.0			5	SS	44		416							8 57 26 9
3.1		[Dotted pattern]	6	SS	58		415							
4			7	SS	80		414							
5			8	SS	72		413							
6		[Dotted pattern]					412							
7							411							
8.2	END OF BOREHOLE: Notes: 1) 50mm dia. monitoring well installed upon completion. 2) Water level Reading: Date: Water Level (mbgs): April 28, 2021 1.69													

DS ENVIRO 0-50 PPM-2016 21-129-300 ERIN HEIGHTS BOREHOLE LOGS.GPJ_DS.GDT_21-6-23

GROUNDWATER ELEVATIONS
 Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3 , × 3 : Numbers refer to Sensitivity ○ ●=3% Strain at Failure



Appendix D



SOIL



DS Consultants (Cambridge)
ATTN: KEITH CLARKE
380 Jamieson Parkway
Unit 6
Cambridge ON N3C 4N4

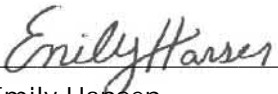
Date Received: 20-APR-21
Report Date: 26-MAY-21 13:05 (MT)
Version: FINAL REV. 2

Client Phone: 519-260-9393

Certificate of Analysis

Lab Work Order #: L2578440
Project P.O. #: NOT SUBMITTED
Job Reference: 21-129-300
C of C Numbers: 17-820071
Legal Site Desc:

Comments: ADDITIONAL 13-MAY-21 08:39



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

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-1	MW21-1 SS2								
Sampled By: CLIENT on 15-APR-21									
Matrix: SOIL									
Physical Tests									
Conductivity		0.138		0.0040	mS/cm	27-APR-21	0.57	0.7	0.7
% Moisture		7.20		0.25	%	23-APR-21			
pH		7.94		0.10	pH units	25-APR-21			
Cyanides									
Cyanide, Weak Acid Diss		<0.050		0.050	ug/g	23-APR-21	0.051	0.051	0.051
Saturated Paste Extractables									
SAR		0.15		0.10	SAR	28-APR-21	2.4	5	5
Calcium (Ca)		20.3		0.50	mg/L	28-APR-21			
Magnesium (Mg)		2.19		0.50	mg/L	28-APR-21			
Sodium (Na)		2.74		0.50	mg/L	28-APR-21			
Metals									
Antimony (Sb)		<1.0		1.0	ug/g	27-APR-21	1.3	7.5	7.5
Arsenic (As)		2.1		1.0	ug/g	27-APR-21	18	18	18
Barium (Ba)		16.6		1.0	ug/g	27-APR-21	220	390	390
Beryllium (Be)		<0.50		0.50	ug/g	27-APR-21	2.5	4	5
Boron (B)		<5.0		5.0	ug/g	27-APR-21	36	120	120
Boron (B), Hot Water Ext.		0.12		0.10	ug/g	27-APR-21	36	1.5	1.5
Cadmium (Cd)		<0.50		0.50	ug/g	27-APR-21	1.2	1.2	1.2
Chromium (Cr)		7.7		1.0	ug/g	27-APR-21	70	160	160
Cobalt (Co)		2.4		1.0	ug/g	27-APR-21	21	22	22
Copper (Cu)		7.8		1.0	ug/g	27-APR-21	92	140	180
Lead (Pb)		23.4		1.0	ug/g	27-APR-21	120	120	120
Mercury (Hg)		0.0541		0.0050	ug/g	27-APR-21	0.27	0.27	1.8
Molybdenum (Mo)		<1.0		1.0	ug/g	27-APR-21	2	6.9	6.9
Nickel (Ni)		5.6		1.0	ug/g	27-APR-21	82	100	130
Selenium (Se)		<1.0		1.0	ug/g	27-APR-21	1.5	2.4	2.4
Silver (Ag)		<0.20		0.20	ug/g	27-APR-21	0.5	20	25
Thallium (Tl)		<0.50		0.50	ug/g	27-APR-21	1	1	1
Uranium (U)		<1.0		1.0	ug/g	27-APR-21	2.5	23	23
Vanadium (V)		16.5		1.0	ug/g	27-APR-21	86	86	86
Zinc (Zn)		92.9		5.0	ug/g	27-APR-21	290	340	340
Speciated Metals									
Chromium, Hexavalent		<0.20		0.20	ug/g	26-APR-21	0.66	8	10
Polycyclic Aromatic Hydrocarbons									
Acenaphthene		<0.050		0.050	ug/g	26-APR-21	0.072	7.9	29
Acenaphthylene		<0.050		0.050	ug/g	26-APR-21	0.093	0.15	0.17
Anthracene		<0.050		0.050	ug/g	26-APR-21	0.16	0.67	0.74
Benzo(a)anthracene		<0.050		0.050	ug/g	26-APR-21	0.36	0.5	0.63
Benzo(a)pyrene		<0.050		0.050	ug/g	26-APR-21	0.3	0.3	0.3
Benzo(b&j)fluoranthene		<0.050		0.050	ug/g	26-APR-21	0.47	0.78	0.78
Benzo(g,h,i)perylene		<0.050		0.050	ug/g	26-APR-21	0.68	6.6	7.8
Benzo(k)fluoranthene		<0.050		0.050	ug/g	26-APR-21	0.48	0.78	0.78
Chrysene		<0.050		0.050	ug/g	26-APR-21	2.8	7	7.8
Dibenz(a,h)anthracene		<0.050		0.050	ug/g	26-APR-21	0.1	0.1	0.1
Fluoranthene		<0.050		0.050	ug/g	26-APR-21	0.56	0.69	0.69

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Table with columns: Sample Details Grouping, Analyte, Result, Qualifier, D.L., Units, Analyzed, Guideline Limits (#1, #2, #3). Rows include Polycyclic Aromatic Hydrocarbons and Volatile Organic Compounds.

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-2	MW21-1 SS4								
Sampled By: CLIENT on 15-APR-21									
Matrix: SOIL									
Volatile Organic Compounds									
	Styrene	<0.050		0.050	ug/g	22-APR-21	0.05	0.7	2.2
	1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.058	0.05
	1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	Tetrachloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	0.28	2.3
	Toluene	<0.080		0.080	ug/g	22-APR-21	0.2	2.3	6
	1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.38	3.4
	1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	Trichloroethylene	<0.010		0.010	ug/g	22-APR-21	0.05	0.061	0.52
	Trichlorofluoromethane	<0.050		0.050	ug/g	22-APR-21	0.25	4	5.8
	Vinyl chloride	<0.020		0.020	ug/g	22-APR-21	0.02	0.02	0.022
	o-Xylene	<0.020		0.020	ug/g	22-APR-21			
	m+p-Xylenes	<0.030		0.030	ug/g	22-APR-21			
	Xylenes (Total)	<0.050		0.050	ug/g	26-APR-21	0.05	3.1	25
	Surrogate: 4-Bromofluorobenzene	85.5		50-140	%	22-APR-21			
	Surrogate: 1,4-Difluorobenzene	127.9		50-140	%	22-APR-21			
Hydrocarbons									
	F1 (C6-C10)	<5.0		5.0	ug/g	22-APR-21	25	55	65
	F1-BTEX	<5.0		5.0	ug/g	26-APR-21	25	55	65
	F2 (C10-C16)	<10		10	ug/g	23-APR-21	10	98	150
	F3 (C16-C34)	<50		50	ug/g	23-APR-21	240	300	1300
	F4 (C34-C50)	<50		50	ug/g	23-APR-21	120	2800	5600
	Total Hydrocarbons (C6-C50)	<72		72	ug/g	26-APR-21			
	Chrom. to baseline at nC50	YES			No Unit	23-APR-21			
	Surrogate: 2-Bromobenzotrifluoride	79.3		60-140	%	23-APR-21			
	Surrogate: 3,4-Dichlorotoluene	95.7		60-140	%	22-APR-21			
L2578440-3	MW21-10 SS1								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Physical Tests									
	Conductivity	0.222		0.0040	mS/cm	27-APR-21	0.57	0.7	0.7
	% Moisture	14.4		0.25	%	23-APR-21			
	pH	7.24		0.10	pH units	25-APR-21			
Cyanides									
	Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	23-APR-21	0.051	0.051	0.051
Saturated Paste Extractables									
	SAR	<0.10		0.10	SAR	28-APR-21	2.4	5	5
	Calcium (Ca)	44.7		0.50	mg/L	28-APR-21			
	Magnesium (Mg)	2.19		0.50	mg/L	28-APR-21			
	Sodium (Na)	1.30		0.50	mg/L	28-APR-21			
Metals									
	Antimony (Sb)	<1.0		1.0	ug/g	27-APR-21	1.3	7.5	7.5
	Arsenic (As)	3.3		1.0	ug/g	27-APR-21	18	18	18
	Barium (Ba)	36.9		1.0	ug/g	27-APR-21	220	390	390
	Beryllium (Be)	<0.50		0.50	ug/g	27-APR-21	2.5	4	5
	Boron (B)	<5.0		5.0	ug/g	27-APR-21	36	120	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:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-3	MW21-10 SS1								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Metals									
	Boron (B), Hot Water Ext.	0.31		0.10	ug/g	27-APR-21	36	1.5	1.5
	Cadmium (Cd)	<0.50		0.50	ug/g	27-APR-21	1.2	1.2	1.2
	Chromium (Cr)	13.7		1.0	ug/g	27-APR-21	70	160	160
	Cobalt (Co)	3.8		1.0	ug/g	27-APR-21	21	22	22
	Copper (Cu)	7.5		1.0	ug/g	27-APR-21	92	140	180
	Lead (Pb)	24.4		1.0	ug/g	27-APR-21	120	120	120
	Mercury (Hg)	0.898		0.0050	ug/g	27-APR-21	*0.27	*0.27	1.8
	Molybdenum (Mo)	<1.0		1.0	ug/g	27-APR-21	2	6.9	6.9
	Nickel (Ni)	6.8		1.0	ug/g	27-APR-21	82	100	130
	Selenium (Se)	<1.0		1.0	ug/g	27-APR-21	1.5	2.4	2.4
	Silver (Ag)	<0.20		0.20	ug/g	27-APR-21	0.5	20	25
	Thallium (Tl)	<0.50		0.50	ug/g	27-APR-21	1	1	1
	Uranium (U)	<1.0		1.0	ug/g	27-APR-21	2.5	23	23
	Vanadium (V)	33.3		1.0	ug/g	27-APR-21	86	86	86
	Zinc (Zn)	92.4		5.0	ug/g	27-APR-21	290	340	340
Speciated Metals									
	Chromium, Hexavalent	<0.20		0.20	ug/g	26-APR-21	0.66	8	10
Polycyclic Aromatic Hydrocarbons									
	Acenaphthene	<0.050		0.050	ug/g	26-APR-21	0.072	7.9	29
	Acenaphthylene	<0.050		0.050	ug/g	26-APR-21	0.093	0.15	0.17
	Anthracene	<0.050		0.050	ug/g	26-APR-21	0.16	0.67	0.74
	Benzo(a)anthracene	<0.050		0.050	ug/g	26-APR-21	0.36	0.5	0.63
	Benzo(a)pyrene	<0.050		0.050	ug/g	26-APR-21	0.3	0.3	0.3
	Benzo(b&j)fluoranthene	<0.050		0.050	ug/g	26-APR-21	0.47	0.78	0.78
	Benzo(g,h,i)perylene	<0.050		0.050	ug/g	26-APR-21	0.68	6.6	7.8
	Benzo(k)fluoranthene	<0.050		0.050	ug/g	26-APR-21	0.48	0.78	0.78
	Chrysene	<0.050		0.050	ug/g	26-APR-21	2.8	7	7.8
	Dibenz(a,h)anthracene	<0.050		0.050	ug/g	26-APR-21	0.1	0.1	0.1
	Fluoranthene	<0.050		0.050	ug/g	26-APR-21	0.56	0.69	0.69
	Fluorene	<0.050		0.050	ug/g	26-APR-21	0.12	62	69
	Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	26-APR-21	0.23	0.38	0.48
	1+2-Methylnaphthalenes	<0.042		0.042	ug/g	26-APR-21	0.59	0.99	3.4
	1-Methylnaphthalene	<0.030		0.030	ug/g	26-APR-21	0.59	0.99	3.4
	2-Methylnaphthalene	<0.030		0.030	ug/g	26-APR-21	0.59	0.99	3.4
	Naphthalene	<0.013		0.013	ug/g	26-APR-21	0.09	0.6	0.75
	Phenanthrene	<0.046		0.046	ug/g	26-APR-21	0.69	6.2	7.8
	Pyrene	<0.050		0.050	ug/g	26-APR-21	1	78	78
	Surrogate: 2-Fluorobiphenyl	91.1		50-140	%	26-APR-21			
	Surrogate: d14-Terphenyl	93.4		50-140	%	26-APR-21			
L2578440-4	MW21-10 SS3								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Physical Tests									
	% Moisture	9.49		0.25	%	23-APR-21			

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-4	MW21-10 SS3								
Sampled By:	CLIENT on 19-APR-21								
Matrix:	SOIL								
Metals									
	Mercury (Hg)	0.0184		0.0050	ug/g	26-MAY-21	0.27	0.27	1.8
Volatile Organic Compounds									
	Acetone	<0.50		0.50	ug/g	22-APR-21	0.5	16	28
	Benzene	<0.0068		0.0068	ug/g	22-APR-21	0.02	0.21	0.17
	Bromodichloromethane	<0.050		0.050	ug/g	22-APR-21	0.05	1.5	1.9
	Bromoform	<0.050		0.050	ug/g	22-APR-21	0.05	0.27	0.26
	Bromomethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	Carbon tetrachloride	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.12
	Chlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	2.4	2.7
	Dibromochloromethane	<0.050		0.050	ug/g	22-APR-21	0.05	2.3	2.9
	Chloroform	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.18
	1,2-Dibromoethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	1.2	1.7
	1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	4.8	6
	1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	0.083	0.097
	Dichlorodifluoromethane	<0.050		0.050	ug/g	22-APR-21	0.05	16	25
	1,1-Dichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.47	0.6
	1,2-Dichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	1,1-Dichloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	1.9	2.5
	trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	0.084	0.75
	Methylene Chloride	<0.050		0.050	ug/g	22-APR-21	0.05	0.1	0.96
	1,2-Dichloropropane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.085
	cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-APR-21			
	trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-APR-21			
	1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	26-APR-21	0.05	0.05	0.081
	Ethylbenzene	<0.018		0.018	ug/g	22-APR-21	0.05	1.1	1.6
	n-Hexane	<0.050		0.050	ug/g	22-APR-21	0.05	2.8	34
	Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-APR-21	0.5	16	44
	Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-APR-21	0.5	1.7	4.3
	MTBE	<0.050		0.050	ug/g	22-APR-21	0.05	0.75	1.4
	Styrene	<0.050		0.050	ug/g	22-APR-21	0.05	0.7	2.2
	1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.058	0.05
	1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	Tetrachloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	0.28	2.3
	Toluene	<0.080		0.080	ug/g	22-APR-21	0.2	2.3	6
	1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.38	3.4
	1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	Trichloroethylene	<0.010		0.010	ug/g	22-APR-21	0.05	0.061	0.52
	Trichlorofluoromethane	<0.050		0.050	ug/g	22-APR-21	0.25	4	5.8
	Vinyl chloride	<0.020		0.020	ug/g	22-APR-21	0.02	0.02	0.022
	o-Xylene	<0.020		0.020	ug/g	22-APR-21			
	m+p-Xylenes	<0.030		0.030	ug/g	22-APR-21			
	Xylenes (Total)	<0.050		0.050	ug/g	26-APR-21	0.05	3.1	25
	Surrogate: 4-Bromofluorobenzene	79.5		50-140	%	22-APR-21			
	Surrogate: 1,4-Difluorobenzene	121.5		50-140	%	22-APR-21			

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-4	MW21-10 SS3								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Hydrocarbons									
F1 (C6-C10)		<5.0		5.0	ug/g	22-APR-21	25	55	65
F1-BTEX		<5.0		5.0	ug/g	26-APR-21	25	55	65
F2 (C10-C16)		<10		10	ug/g	23-APR-21	10	98	150
F3 (C16-C34)		<50		50	ug/g	23-APR-21	240	300	1300
F4 (C34-C50)		<50		50	ug/g	23-APR-21	120	2800	5600
Total Hydrocarbons (C6-C50)		<72		72	ug/g	26-APR-21			
Chrom. to baseline at nC50		YES			No Unit	23-APR-21			
Surrogate: 2-Bromobenzotrifluoride		87.5		60-140	%	23-APR-21			
Surrogate: 3,4-Dichlorotoluene		83.6		60-140	%	22-APR-21			
L2578440-5	GS1								
Sampled By: CLIENT on 15-APR-21									
Matrix: SOIL									
Physical Tests									
Conductivity		0.131		0.0040	mS/cm	27-APR-21	0.57	0.7	0.7
% Moisture		11.8		0.25	%	23-APR-21			
pH		6.99		0.10	pH units	25-APR-21			
Cyanides									
Cyanide, Weak Acid Diss		<0.050		0.050	ug/g	23-APR-21	0.051	0.051	0.051
Saturated Paste Extractables									
SAR		<0.10	SAR:DL	0.10	SAR	28-APR-21	2.4	5	5
Calcium (Ca)		26.3		0.50	mg/L	28-APR-21			
Magnesium (Mg)		1.74		0.50	mg/L	28-APR-21			
Sodium (Na)		<0.50		0.50	mg/L	28-APR-21			
Metals									
Antimony (Sb)		<1.0		1.0	ug/g	27-APR-21	1.3	7.5	7.5
Arsenic (As)		5.3		1.0	ug/g	27-APR-21	18	18	18
Barium (Ba)		61.1		1.0	ug/g	27-APR-21	220	390	390
Beryllium (Be)		<0.50		0.50	ug/g	27-APR-21	2.5	4	5
Boron (B)		5.3		5.0	ug/g	27-APR-21	36	120	120
Boron (B), Hot Water Ext.		0.55		0.10	ug/g	27-APR-21	36	1.5	1.5
Cadmium (Cd)		1.19		0.50	ug/g	27-APR-21	1.2	1.2	1.2
Chromium (Cr)		18.3		1.0	ug/g	27-APR-21	70	160	160
Cobalt (Co)		4.5		1.0	ug/g	27-APR-21	21	22	22
Copper (Cu)		17.2		1.0	ug/g	27-APR-21	92	140	180
Lead (Pb)		161		1.0	ug/g	27-APR-21	*120	*120	*120
Mercury (Hg)		1.05	DLHC	0.050	ug/g	27-APR-21	*0.27	*0.27	1.8
Molybdenum (Mo)		<1.0		1.0	ug/g	27-APR-21	2	6.9	6.9
Nickel (Ni)		10.0		1.0	ug/g	27-APR-21	82	100	130
Selenium (Se)		<1.0		1.0	ug/g	27-APR-21	1.5	2.4	2.4
Silver (Ag)		<0.20		0.20	ug/g	27-APR-21	0.5	20	25
Thallium (Tl)		<0.50		0.50	ug/g	27-APR-21	1	1	1
Uranium (U)		<1.0		1.0	ug/g	27-APR-21	2.5	23	23
Vanadium (V)		35.4		1.0	ug/g	27-APR-21	86	86	86
Zinc (Zn)		270		5.0	ug/g	27-APR-21	290	340	340
Speciated Metals									

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Table with columns: Sample Details Grouping, Analyte, Result, Qualifier, D.L., Units, Analyzed, and Guideline Limits (#1, #2, #3). Rows include Speciated Metals (Chromium, Hexavalent) and Volatile Organic Compounds (Acetone, Benzene, Bromodichloromethane, etc.).

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-5	GS1								
Sampled By: CLIENT on 15-APR-21									
Matrix: SOIL									
Hydrocarbons									
F1 (C6-C10)		<5.0		5.0	ug/g	27-APR-21	25	55	65
F1-BTEX		<5.0		5.0	ug/g	27-APR-21	25	55	65
F2 (C10-C16)		3930		10	ug/g	23-APR-21	*10	*98	*150
F2-Naphth		3930		10	ug/g	27-APR-21			
F3 (C16-C34)		14200		50	ug/g	23-APR-21	*240	*300	*1300
F3-PAH		14100		50	ug/g	27-APR-21			
F4 (C34-C50)		355		50	ug/g	23-APR-21	*120	2800	5600
Total Hydrocarbons (C6-C50)		18400		72	ug/g	27-APR-21			
Chrom. to baseline at nC50		YES			No Unit	23-APR-21			
Surrogate: 2-Bromobenzotrifluoride		76.8		60-140	%	23-APR-21			
Surrogate: 3,4-Dichlorotoluene		42.9	SURR-ND	60-140	%	27-APR-21			
Polycyclic Aromatic Hydrocarbons									
Acenaphthene		<0.49	DLM	0.49	ug/g	26-APR-21	**0.072	7.9	29
Acenaphthylene		0.097	R	0.050	ug/g	26-APR-21	*0.093	0.15	0.17
Anthracene		<0.050		0.050	ug/g	26-APR-21	0.16	0.67	0.74
Benzo(a)anthracene		0.115	R	0.050	ug/g	26-APR-21	0.36	0.5	0.63
Benzo(a)pyrene		0.182		0.050	ug/g	26-APR-21	0.3	0.3	0.3
Benzo(b&j)fluoranthene		0.358		0.050	ug/g	26-APR-21	0.47	0.78	0.78
Benzo(g,h,i)perylene		0.317		0.050	ug/g	26-APR-21	0.68	6.6	7.8
Benzo(k)fluoranthene		0.101		0.050	ug/g	26-APR-21	0.48	0.78	0.78
Chrysene		0.291		0.050	ug/g	26-APR-21	2.8	7	7.8
Dibenz(a,h)anthracene		<0.050		0.050	ug/g	26-APR-21	0.1	0.1	0.1
Fluoranthene		0.718		0.050	ug/g	26-APR-21	*0.56	*0.69	*0.69
Fluorene		0.366	R	0.050	ug/g	26-APR-21	*0.12	62	69
Indeno(1,2,3-cd)pyrene		0.192		0.050	ug/g	26-APR-21	0.23	0.38	0.48
1+2-Methylnaphthalenes		<0.41		0.41	ug/g	26-APR-21	0.59	0.99	3.4
1-Methylnaphthalene		<0.41	DLQ	0.41	ug/g	26-APR-21	0.59	0.99	3.4
2-Methylnaphthalene		0.063		0.030	ug/g	26-APR-21	0.59	0.99	3.4
Naphthalene		0.070	R	0.013	ug/g	26-APR-21	0.09	0.6	0.75
Phenanthrene		0.950		0.046	ug/g	26-APR-21	*0.69	6.2	7.8
Pyrene		1.25		0.050	ug/g	26-APR-21	*1	78	78
Surrogate: 2-Fluorobiphenyl		96.0		50-140	%	26-APR-21			
Surrogate: d14-Terphenyl		75.7		50-140	%	26-APR-21			
L2578440-6	GS2								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Physical Tests									
Conductivity		0.161		0.0040	mS/cm	27-APR-21	0.57	0.7	0.7
% Moisture		14.1		0.25	%	23-APR-21			
pH		7.18		0.10	pH units	25-APR-21			
Cyanides									
Cyanide, Weak Acid Diss		<0.050		0.050	ug/g	23-APR-21	0.051	0.051	0.051
Saturated Paste Extractables									
SAR		<0.10	SAR:DL	0.10	SAR	28-APR-21	2.4	5	5

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-6	GS2								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Saturated Paste Extractables									
	Calcium (Ca)	29.0		0.50	mg/L	28-APR-21			
	Magnesium (Mg)	1.84		0.50	mg/L	28-APR-21			
	Sodium (Na)	<0.50		0.50	mg/L	28-APR-21			
Metals									
	Antimony (Sb)	<1.0		1.0	ug/g	27-APR-21	1.3	7.5	7.5
	Arsenic (As)	2.8		1.0	ug/g	27-APR-21	18	18	18
	Barium (Ba)	23.1		1.0	ug/g	27-APR-21	220	390	390
	Beryllium (Be)	<0.50		0.50	ug/g	27-APR-21	2.5	4	5
	Boron (B)	<5.0		5.0	ug/g	27-APR-21	36	120	120
	Boron (B), Hot Water Ext.	0.69		0.10	ug/g	27-APR-21	36	1.5	1.5
	Cadmium (Cd)	2.51		0.50	ug/g	27-APR-21	*1.2	*1.2	*1.2
	Chromium (Cr)	9.1		1.0	ug/g	27-APR-21	70	160	160
	Cobalt (Co)	2.5		1.0	ug/g	27-APR-21	21	22	22
	Copper (Cu)	10.0		1.0	ug/g	27-APR-21	92	140	180
	Lead (Pb)	20.0		1.0	ug/g	27-APR-21	120	120	120
	Mercury (Hg)	1.22	DLHC	0.050	ug/g	27-APR-21	*0.27	*0.27	1.8
	Molybdenum (Mo)	<1.0		1.0	ug/g	27-APR-21	2	6.9	6.9
	Nickel (Ni)	4.9		1.0	ug/g	27-APR-21	82	100	130
	Selenium (Se)	<1.0		1.0	ug/g	27-APR-21	1.5	2.4	2.4
	Silver (Ag)	<0.20		0.20	ug/g	27-APR-21	0.5	20	25
	Thallium (Tl)	<0.50		0.50	ug/g	27-APR-21	1	1	1
	Uranium (U)	<1.0		1.0	ug/g	27-APR-21	2.5	23	23
	Vanadium (V)	19.7		1.0	ug/g	27-APR-21	86	86	86
	Zinc (Zn)	79.6		5.0	ug/g	27-APR-21	290	340	340
Speciated Metals									
	Chromium, Hexavalent	<0.20		0.20	ug/g	26-APR-21	0.66	8	10
Volatile Organic Compounds									
	Acetone	<0.50		0.50	ug/g	22-APR-21	0.5	16	28
	Benzene	<0.0068		0.0068	ug/g	22-APR-21	0.02	0.21	0.17
	Bromodichloromethane	<0.050		0.050	ug/g	22-APR-21	0.05	1.5	1.9
	Bromoform	<0.050		0.050	ug/g	22-APR-21	0.05	0.27	0.26
	Bromomethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	Carbon tetrachloride	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.12
	Chlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	2.4	2.7
	Dibromochloromethane	<0.050		0.050	ug/g	22-APR-21	0.05	2.3	2.9
	Chloroform	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.18
	1,2-Dibromoethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	1.2	1.7
	1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	4.8	6
	1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	0.083	0.097
	Dichlorodifluoromethane	<0.050		0.050	ug/g	22-APR-21	0.05	16	25
	1,1-Dichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.47	0.6
	1,2-Dichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	1,1-Dichloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	1.9	2.5

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Table with columns: Sample Details Grouping, Analyte, Result, Qualifier, D.L., Units, Analyzed, and Guideline Limits (#1, #2, #3). Rows include Volatile Organic Compounds, Hydrocarbons, and Polycyclic Aromatic Hydrocarbons.

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

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ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-6	GS2								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Polycyclic Aromatic Hydrocarbons									
	Benzo(g,h,i)perylene	<0.050		0.050	ug/g	26-APR-21	0.68	6.6	7.8
	Benzo(k)fluoranthene	<0.050		0.050	ug/g	26-APR-21	0.48	0.78	0.78
	Chrysene	<0.050		0.050	ug/g	26-APR-21	2.8	7	7.8
	Dibenz(a,h)anthracene	<0.050		0.050	ug/g	26-APR-21	0.1	0.1	0.1
	Fluoranthene	<0.050		0.050	ug/g	26-APR-21	0.56	0.69	0.69
	Fluorene	<0.050		0.050	ug/g	26-APR-21	0.12	62	69
	Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	26-APR-21	0.23	0.38	0.48
	1+2-Methylnaphthalenes	<0.042		0.042	ug/g	26-APR-21	0.59	0.99	3.4
	1-Methylnaphthalene	<0.030		0.030	ug/g	26-APR-21	0.59	0.99	3.4
	2-Methylnaphthalene	<0.030		0.030	ug/g	26-APR-21	0.59	0.99	3.4
	Naphthalene	<0.013		0.013	ug/g	26-APR-21	0.09	0.6	0.75
	Phenanthrene	<0.046		0.046	ug/g	26-APR-21	0.69	6.2	7.8
	Pyrene	<0.050		0.050	ug/g	26-APR-21	1	78	78
	Surrogate: 2-Fluorobiphenyl	93.4		50-140	%	26-APR-21			
	Surrogate: d14-Terphenyl	97.5		50-140	%	26-APR-21			
L2578440-7	GS3								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Physical Tests									
	Conductivity	0.272		0.0040	mS/cm	27-APR-21	0.57	0.7	0.7
	% Moisture	17.0		0.25	%	23-APR-21			
	pH	7.20		0.10	pH units	25-APR-21			
Cyanides									
	Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	23-APR-21	0.051	0.051	0.051
Saturated Paste Extractables									
	SAR	<0.10		0.10	SAR	28-APR-21	2.4	5	5
	Calcium (Ca)	44.7		0.50	mg/L	28-APR-21			
	Magnesium (Mg)	3.36		0.50	mg/L	28-APR-21			
	Sodium (Na)	0.62		0.50	mg/L	28-APR-21			
Metals									
	Antimony (Sb)	<1.0		1.0	ug/g	27-APR-21	1.3	7.5	7.5
	Arsenic (As)	3.3		1.0	ug/g	27-APR-21	18	18	18
	Barium (Ba)	43.8		1.0	ug/g	27-APR-21	220	390	390
	Beryllium (Be)	<0.50		0.50	ug/g	27-APR-21	2.5	4	5
	Boron (B)	<5.0		5.0	ug/g	27-APR-21	36	120	120
	Boron (B), Hot Water Ext.	0.55		0.10	ug/g	27-APR-21	36	1.5	1.5
	Cadmium (Cd)	<0.50		0.50	ug/g	27-APR-21	1.2	1.2	1.2
	Chromium (Cr)	12.8		1.0	ug/g	27-APR-21	70	160	160
	Cobalt (Co)	4.2		1.0	ug/g	27-APR-21	21	22	22
	Copper (Cu)	8.5		1.0	ug/g	27-APR-21	92	140	180
	Lead (Pb)	33.0		1.0	ug/g	27-APR-21	120	120	120
	Mercury (Hg)	0.329		0.0050	ug/g	27-APR-21	*0.27	*0.27	1.8
	Molybdenum (Mo)	<1.0		1.0	ug/g	27-APR-21	2	6.9	6.9
	Nickel (Ni)	7.4		1.0	ug/g	27-APR-21	82	100	130

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-7	GS3								
Sampled By:	CLIENT on 19-APR-21								
Matrix:	SOIL								
Metals									
	Selenium (Se)	<1.0		1.0	ug/g	27-APR-21	1.5	2.4	2.4
	Silver (Ag)	<0.20		0.20	ug/g	27-APR-21	0.5	20	25
	Thallium (Tl)	<0.50		0.50	ug/g	27-APR-21	1	1	1
	Uranium (U)	<1.0		1.0	ug/g	27-APR-21	2.5	23	23
	Vanadium (V)	30.6		1.0	ug/g	27-APR-21	86	86	86
	Zinc (Zn)	101		5.0	ug/g	27-APR-21	290	340	340
Speciated Metals									
	Chromium, Hexavalent	<0.20		0.20	ug/g	26-APR-21	0.66	8	10
Volatile Organic Compounds									
	Acetone	<0.50		0.50	ug/g	22-APR-21	0.5	16	28
	Benzene	<0.0068		0.0068	ug/g	22-APR-21	0.02	0.21	0.17
	Bromodichloromethane	<0.050		0.050	ug/g	22-APR-21	0.05	1.5	1.9
	Bromoform	<0.050		0.050	ug/g	22-APR-21	0.05	0.27	0.26
	Bromomethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	Carbon tetrachloride	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.12
	Chlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	2.4	2.7
	Dibromochloromethane	<0.050		0.050	ug/g	22-APR-21	0.05	2.3	2.9
	Chloroform	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.18
	1,2-Dibromoethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	1,2-Dichlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	1.2	1.7
	1,3-Dichlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	4.8	6
	1,4-Dichlorobenzene	<0.050		0.050	ug/g	22-APR-21	0.05	0.083	0.097
	Dichlorodifluoromethane	<0.050		0.050	ug/g	22-APR-21	0.05	16	25
	1,1-Dichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.47	0.6
	1,2-Dichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	1,1-Dichloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	1.9	2.5
	trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	0.084	0.75
	Methylene Chloride	<0.050		0.050	ug/g	22-APR-21	0.05	0.1	0.96
	1,2-Dichloropropane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.085
	cis-1,3-Dichloropropene	<0.030		0.030	ug/g	22-APR-21			
	trans-1,3-Dichloropropene	<0.030		0.030	ug/g	22-APR-21			
	1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	26-APR-21	0.05	0.05	0.081
	Ethylbenzene	<0.018		0.018	ug/g	22-APR-21	0.05	1.1	1.6
	n-Hexane	<0.050		0.050	ug/g	22-APR-21	0.05	2.8	34
	Methyl Ethyl Ketone	<0.50		0.50	ug/g	22-APR-21	0.5	16	44
	Methyl Isobutyl Ketone	<0.50		0.50	ug/g	22-APR-21	0.5	1.7	4.3
	MTBE	<0.050		0.050	ug/g	22-APR-21	0.05	0.75	1.4
	Styrene	<0.050		0.050	ug/g	22-APR-21	0.05	0.7	2.2
	1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.058	0.05
	1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05
	Tetrachloroethylene	<0.050		0.050	ug/g	22-APR-21	0.05	0.28	2.3
	Toluene	<0.080		0.080	ug/g	22-APR-21	0.2	2.3	6
	1,1,1-Trichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.38	3.4
	1,1,2-Trichloroethane	<0.050		0.050	ug/g	22-APR-21	0.05	0.05	0.05

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-7	GS3								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Volatile Organic Compounds									
	Trichloroethylene	<0.010		0.010	ug/g	22-APR-21	0.05	0.061	0.52
	Trichlorofluoromethane	<0.050		0.050	ug/g	22-APR-21	0.25	4	5.8
	Vinyl chloride	<0.020		0.020	ug/g	22-APR-21	0.02	0.02	0.022
	o-Xylene	<0.020		0.020	ug/g	22-APR-21			
	m+p-Xylenes	<0.030		0.030	ug/g	22-APR-21			
	Xylenes (Total)	<0.050		0.050	ug/g	26-APR-21	0.05	3.1	25
	Surrogate: 4-Bromofluorobenzene	82.1		50-140	%	22-APR-21			
	Surrogate: 1,4-Difluorobenzene	128.7		50-140	%	22-APR-21			
Hydrocarbons									
	F1 (C6-C10)	<5.0		5.0	ug/g	22-APR-21	25	55	65
	F1-BTEX	<5.0		5.0	ug/g	26-APR-21	25	55	65
	F2 (C10-C16)	<10		10	ug/g	23-APR-21	10	98	150
	F2-Naphth	<10		10	ug/g	26-APR-21			
	F3 (C16-C34)	<50		50	ug/g	23-APR-21	240	300	1300
	F3-PAH	<50		50	ug/g	26-APR-21			
	F4 (C34-C50)	<50		50	ug/g	23-APR-21	120	2800	5600
	Total Hydrocarbons (C6-C50)	<72		72	ug/g	26-APR-21			
	Chrom. to baseline at nC50	YES			No Unit	23-APR-21			
	Surrogate: 2-Bromobenzotrifluoride	81.0		60-140	%	23-APR-21			
	Surrogate: 3,4-Dichlorotoluene	87.0		60-140	%	22-APR-21			
Polycyclic Aromatic Hydrocarbons									
	Acenaphthene	<0.050		0.050	ug/g	26-APR-21	0.072	7.9	29
	Acenaphthylene	<0.050		0.050	ug/g	26-APR-21	0.093	0.15	0.17
	Anthracene	<0.050		0.050	ug/g	26-APR-21	0.16	0.67	0.74
	Benzo(a)anthracene	<0.050		0.050	ug/g	26-APR-21	0.36	0.5	0.63
	Benzo(a)pyrene	<0.050		0.050	ug/g	26-APR-21	0.3	0.3	0.3
	Benzo(b&j)fluoranthene	<0.050		0.050	ug/g	26-APR-21	0.47	0.78	0.78
	Benzo(g,h,i)perylene	<0.050		0.050	ug/g	26-APR-21	0.68	6.6	7.8
	Benzo(k)fluoranthene	<0.050		0.050	ug/g	26-APR-21	0.48	0.78	0.78
	Chrysene	<0.050		0.050	ug/g	26-APR-21	2.8	7	7.8
	Dibenz(a,h)anthracene	<0.050		0.050	ug/g	26-APR-21	0.1	0.1	0.1
	Fluoranthene	<0.050		0.050	ug/g	26-APR-21	0.56	0.69	0.69
	Fluorene	<0.050		0.050	ug/g	26-APR-21	0.12	62	69
	Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	26-APR-21	0.23	0.38	0.48
	1+2-Methylnaphthalenes	<0.042		0.042	ug/g	26-APR-21	0.59	0.99	3.4
	1-Methylnaphthalene	<0.030		0.030	ug/g	26-APR-21	0.59	0.99	3.4
	2-Methylnaphthalene	<0.030		0.030	ug/g	26-APR-21	0.59	0.99	3.4
	Naphthalene	<0.013		0.013	ug/g	26-APR-21	0.09	0.6	0.75
	Phenanthrene	<0.046		0.046	ug/g	26-APR-21	0.69	6.2	7.8
	Pyrene	<0.050		0.050	ug/g	26-APR-21	1	78	78
	Surrogate: 2-Fluorobiphenyl	92.5		50-140	%	26-APR-21			
	Surrogate: d14-Terphenyl	95.7		50-140	%	26-APR-21			
L2578440-8	DUP1								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
							#1	#2	#3

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-8	DUP1								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Physical Tests									
Conductivity		0.198		0.0040	mS/cm	27-APR-21	0.57	0.7	0.7
% Moisture		14.4		0.25	%	23-APR-21			
pH		7.08		0.10	pH units	25-APR-21			
Cyanides									
Cyanide, Weak Acid Diss		<0.050		0.050	ug/g	23-APR-21	0.051	0.051	0.051
Saturated Paste Extractables									
SAR		<0.10		0.10	SAR	28-APR-21	2.4	5	5
Calcium (Ca)		35.0		0.50	mg/L	28-APR-21			
Magnesium (Mg)		2.00		0.50	mg/L	28-APR-21			
Sodium (Na)		0.73		0.50	mg/L	28-APR-21			
Metals									
Antimony (Sb)		<1.0		1.0	ug/g	27-APR-21	1.3	7.5	7.5
Arsenic (As)		2.5		1.0	ug/g	27-APR-21	18	18	18
Barium (Ba)		20.8		1.0	ug/g	27-APR-21	220	390	390
Beryllium (Be)		<0.50		0.50	ug/g	27-APR-21	2.5	4	5
Boron (B)		<5.0		5.0	ug/g	27-APR-21	36	120	120
Boron (B), Hot Water Ext.		0.60		0.10	ug/g	27-APR-21	36	1.5	1.5
Cadmium (Cd)		2.01		0.50	ug/g	27-APR-21	*1.2	*1.2	*1.2
Chromium (Cr)		8.5		1.0	ug/g	27-APR-21	70	160	160
Cobalt (Co)		2.4		1.0	ug/g	27-APR-21	21	22	22
Copper (Cu)		9.0		1.0	ug/g	27-APR-21	92	140	180
Lead (Pb)		14.3		1.0	ug/g	27-APR-21	120	120	120
Mercury (Hg)		1.17	DLHC	0.050	ug/g	27-APR-21	*0.27	*0.27	1.8
Molybdenum (Mo)		<1.0		1.0	ug/g	27-APR-21	2	6.9	6.9
Nickel (Ni)		4.7		1.0	ug/g	27-APR-21	82	100	130
Selenium (Se)		<1.0		1.0	ug/g	27-APR-21	1.5	2.4	2.4
Silver (Ag)		<0.20		0.20	ug/g	27-APR-21	0.5	20	25
Thallium (Tl)		<0.50		0.50	ug/g	27-APR-21	1	1	1
Uranium (U)		<1.0		1.0	ug/g	27-APR-21	2.5	23	23
Vanadium (V)		18.5		1.0	ug/g	27-APR-21	86	86	86
Zinc (Zn)		63.7		5.0	ug/g	27-APR-21	290	340	340
Speciated Metals									
Chromium, Hexavalent		<0.20		0.20	ug/g	26-APR-21	0.66	8	10
Polycyclic Aromatic Hydrocarbons									
Acenaphthene		<0.050		0.050	ug/g	26-APR-21	0.072	7.9	29
Acenaphthylene		<0.050		0.050	ug/g	26-APR-21	0.093	0.15	0.17
Anthracene		<0.050		0.050	ug/g	26-APR-21	0.16	0.67	0.74
Benzo(a)anthracene		<0.050		0.050	ug/g	26-APR-21	0.36	0.5	0.63
Benzo(a)pyrene		<0.050		0.050	ug/g	26-APR-21	0.3	0.3	0.3
Benzo(b&j)fluoranthene		0.050		0.050	ug/g	26-APR-21	0.47	0.78	0.78
Benzo(g,h,i)perylene		<0.050		0.050	ug/g	26-APR-21	0.68	6.6	7.8
Benzo(k)fluoranthene		<0.050		0.050	ug/g	26-APR-21	0.48	0.78	0.78
Chrysene		<0.050		0.050	ug/g	26-APR-21	2.8	7	7.8
Dibenz(a,h)anthracene		<0.050		0.050	ug/g	26-APR-21	0.1	0.1	0.1
Fluoranthene		<0.050		0.050	ug/g	26-APR-21	0.56	0.69	0.69

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2578440-8	DUP1								
Sampled By: CLIENT on 19-APR-21									
Matrix: SOIL									
Polycyclic Aromatic Hydrocarbons									
	Fluorene	<0.050		0.050	ug/g	26-APR-21	0.12	62	69
	Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	26-APR-21	0.23	0.38	0.48
	1+2-Methylnaphthalenes	<0.042		0.042	ug/g	26-APR-21	0.59	0.99	3.4
	1-Methylnaphthalene	<0.030		0.030	ug/g	26-APR-21	0.59	0.99	3.4
	2-Methylnaphthalene	<0.030		0.030	ug/g	26-APR-21	0.59	0.99	3.4
	Naphthalene	<0.013		0.013	ug/g	26-APR-21	0.09	0.6	0.75
	Phenanthrene	<0.046		0.046	ug/g	26-APR-21	0.69	6.2	7.8
	Pyrene	<0.050		0.050	ug/g	26-APR-21	1	78	78
	Surrogate: 2-Fluorobiphenyl	92.6		50-140	%	26-APR-21			
	Surrogate: d14-Terphenyl	96.4		50-140	%	26-APR-21			

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)

Reference Information

Sample Parameter Qualifier key listed:

Qualifier	Description
SURR-ND	Surrogate recovery marginally exceeded ALS DQO. Reported non-detect results for associated samples were deemed to be unaffected.
R	The ion abundance ratio(s) did not meet the acceptance criteria. Value is an estimated maximum.
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.
SAR:DL	SAR is incalculable due to undetectable Na. Detection Limit represents maximum possible SAR value.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
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***
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 2011)	MOE 3015/APHA 4500CN I-WAD
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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
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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
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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).

Reference Information

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).

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).

Reference Information

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

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

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

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

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

A representative sub-sample of soil is fortified with deuterium-labelled surrogates and a mechanical shaking 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	pH	MOEE E3137A
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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
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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
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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:

17-820071

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		

Reference Information

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

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



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 1 of 15

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT								
	Soil							
Batch	R5441773							
WG3524432-4	DUP	L2578446-2						
Boron (B), Hot Water Ext.		0.46	0.47		ug/g	1.5	30	27-APR-21
WG3524432-2	IRM	WT SAR4						
Boron (B), Hot Water Ext.			109.4		%		70-130	27-APR-21
WG3524432-3	LCS							
Boron (B), Hot Water Ext.			102.0		%		70-130	27-APR-21
WG3524432-1	MB							
Boron (B), Hot Water Ext.			<0.10		ug/g		0.1	27-APR-21
CN-WAD-R511-WT								
	Soil							
Batch	R5441340							
WG3522050-3	DUP	L2577997-4						
Cyanide, Weak Acid Diss		<0.050	<0.050	RPD-NA	ug/g	N/A	35	23-APR-21
WG3522050-2	LCS							
Cyanide, Weak Acid Diss			95.7		%		80-120	23-APR-21
WG3522050-1	MB							
Cyanide, Weak Acid Diss			<0.050		ug/g		0.05	23-APR-21
WG3522050-4	MS	L2577997-4						
Cyanide, Weak Acid Diss			104.1		%		70-130	23-APR-21
CR-CR6-IC-WT								
	Soil							
Batch	R5441300							
WG3522052-4	CRM	WT-SQC012						
Chromium, Hexavalent			100.1		%		70-130	26-APR-21
WG3522052-3	DUP	L2577997-4						
Chromium, Hexavalent		<0.20	<0.20	RPD-NA	ug/g	N/A	35	26-APR-21
WG3522052-2	LCS							
Chromium, Hexavalent			95.8		%		80-120	26-APR-21
WG3522052-1	MB							
Chromium, Hexavalent			<0.20		ug/g		0.2	26-APR-21
EC-WT								
	Soil							
Batch	R5442031							
WG3524431-4	DUP	WG3524431-3						
Conductivity		0.278	0.272		mS/cm	2.2	20	27-APR-21
WG3524431-2	IRM	WT SAR4						
Conductivity			99.2		%		70-130	27-APR-21
WG3524719-1	LCS							
Conductivity			101.1		%		90-110	27-APR-21
WG3524431-1	MB							



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 2 of 15

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-WT		Soil						
Batch	R5442031							
WG3524431-1	MB							
Conductivity			<0.0040		mS/cm		0.004	27-APR-21
F1-HS-511-WT		Soil						
Batch	R5437536							
WG3521292-4	DUP	WG3521292-3						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	22-APR-21
WG3521292-2	LCS							
F1 (C6-C10)			104.3		%		80-120	22-APR-21
WG3521292-1	MB							
F1 (C6-C10)			<5.0		ug/g		5	22-APR-21
Surrogate: 3,4-Dichlorotoluene			97.0		%		60-140	22-APR-21
WG3521292-5	MS	WG3521292-3						
F1 (C6-C10)			98.9		%		60-140	22-APR-21
F2-F4-511-WT		Soil						
Batch	R5440277							
WG3522057-3	DUP	WG3522057-5						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	23-APR-21
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	23-APR-21
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	23-APR-21
WG3522057-2	LCS							
F2 (C10-C16)			95.0		%		80-120	23-APR-21
F3 (C16-C34)			97.1		%		80-120	23-APR-21
F4 (C34-C50)			101.2		%		80-120	23-APR-21
WG3522057-1	MB							
F2 (C10-C16)			<10		ug/g		10	23-APR-21
F3 (C16-C34)			<50		ug/g		50	23-APR-21
F4 (C34-C50)			<50		ug/g		50	23-APR-21
Surrogate: 2-Bromobenzotrifluoride			82.3		%		60-140	23-APR-21
WG3522057-4	MS	WG3522057-5						
F2 (C10-C16)			96.8		%		60-140	23-APR-21
F3 (C16-C34)			97.9		%		60-140	23-APR-21
F4 (C34-C50)			102.4		%		60-140	23-APR-21
F4G-ADD-511-WT		Soil						



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 3 of 15

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F4G-ADD-511-WT		Soil						
Batch	R5440988							
WG3523837-2	LCS							
F4G-SG (GHH-Silica)			72.6		%		60-140	23-APR-21
WG3523837-1	MB							
F4G-SG (GHH-Silica)			<250		ug/g		250	23-APR-21
HG-200.2-CVAA-WT		Soil						
Batch	R5441626							
WG3524430-2	CRM	WT-SS-2						
Mercury (Hg)			99.8		%		70-130	27-APR-21
WG3524430-6	DUP	WG3524430-5						
Mercury (Hg)		<0.0050	<0.0050	RPD-NA	ug/g	N/A	40	27-APR-21
WG3524430-3	LCS							
Mercury (Hg)			110.0		%		80-120	27-APR-21
WG3524430-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	27-APR-21
Batch	R5468157							
WG3541077-2	CRM	WT-SS-2						
Mercury (Hg)			106.8		%		70-130	26-MAY-21
WG3541077-6	DUP	WG3541077-5						
Mercury (Hg)		0.0066	0.0065		ug/g	0.9	40	26-MAY-21
WG3541077-3	LCS							
Mercury (Hg)			97.0		%		80-120	26-MAY-21
WG3541077-1	MB							
Mercury (Hg)			<0.0050		mg/kg		0.005	26-MAY-21
MET-200.2-CCMS-WT		Soil						
Batch	R5442229							
WG3524430-2	CRM	WT-SS-2						
Antimony (Sb)			97.7		%		70-130	27-APR-21
Arsenic (As)			105.9		%		70-130	27-APR-21
Barium (Ba)			108.3		%		70-130	27-APR-21
Beryllium (Be)			98.0		%		70-130	27-APR-21
Boron (B)			9.8		mg/kg		3.5-13.5	27-APR-21
Cadmium (Cd)			111.1		%		70-130	27-APR-21
Chromium (Cr)			100.9		%		70-130	27-APR-21
Cobalt (Co)			101.7		%		70-130	27-APR-21
Copper (Cu)			95.9		%		70-130	27-APR-21
Lead (Pb)			103.7		%		70-130	27-APR-21



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 4 of 15

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT		Soil						
Batch	R5442229							
WG3524430-2	CRM	WT-SS-2						
Molybdenum (Mo)			127.1		%		70-130	27-APR-21
Nickel (Ni)			100.3		%		70-130	27-APR-21
Selenium (Se)			0.14		mg/kg		0-0.34	27-APR-21
Silver (Ag)			96.7		%		70-130	27-APR-21
Thallium (Tl)			0.081		mg/kg		0.029-0.129	27-APR-21
Uranium (U)			105.8		%		70-130	27-APR-21
Vanadium (V)			105.5		%		70-130	27-APR-21
Zinc (Zn)			97.0		%		70-130	27-APR-21
WG3524430-6	DUP	WG3524430-5						
Antimony (Sb)		0.25	0.23		ug/g	11	30	27-APR-21
Arsenic (As)		4.74	4.25		ug/g	11	30	27-APR-21
Barium (Ba)		59.7	52.8		ug/g	12	40	27-APR-21
Beryllium (Be)		0.63	0.53		ug/g	16	30	27-APR-21
Boron (B)		17.5	14.0		ug/g	22	30	27-APR-21
Cadmium (Cd)		0.069	0.066		ug/g	4.6	30	27-APR-21
Chromium (Cr)		19.0	15.9		ug/g	18	30	27-APR-21
Cobalt (Co)		9.38	8.12		ug/g	14	30	27-APR-21
Copper (Cu)		10.8	9.33		ug/g	15	30	27-APR-21
Lead (Pb)		8.61	7.39		ug/g	15	40	27-APR-21
Molybdenum (Mo)		0.69	0.63		ug/g	8.5	40	27-APR-21
Nickel (Ni)		20.1	17.8		ug/g	12	30	27-APR-21
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	27-APR-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	27-APR-21
Thallium (Tl)		0.089	0.074		ug/g	19	30	27-APR-21
Uranium (U)		0.549	0.454		ug/g	19	30	27-APR-21
Vanadium (V)		30.7	25.9		ug/g	17	30	27-APR-21
Zinc (Zn)		44.9	38.9		ug/g	14	30	27-APR-21
WG3524430-4	LCS							
Antimony (Sb)			104.7		%		80-120	27-APR-21
Arsenic (As)			101.1		%		80-120	27-APR-21
Barium (Ba)			98.6		%		80-120	27-APR-21
Beryllium (Be)			91.4		%		80-120	27-APR-21
Boron (B)			90.5		%		80-120	27-APR-21

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



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 5 of 15

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	Soil							
Batch	R5442229							
WG3524430-4	LCS							
Cadmium (Cd)			99.6		%		80-120	27-APR-21
Chromium (Cr)			96.2		%		80-120	27-APR-21
Cobalt (Co)			96.8		%		80-120	27-APR-21
Copper (Cu)			97.3		%		80-120	27-APR-21
Lead (Pb)			104.3		%		80-120	27-APR-21
Molybdenum (Mo)			101.4		%		80-120	27-APR-21
Nickel (Ni)			95.6		%		80-120	27-APR-21
Selenium (Se)			102.4		%		80-120	27-APR-21
Silver (Ag)			40.6	RRQC	%		80-120	27-APR-21
Thallium (Tl)			104.4		%		80-120	27-APR-21
Uranium (U)			101.9		%		80-120	27-APR-21
Vanadium (V)			102.2		%		80-120	27-APR-21
Zinc (Zn)			96.7		%		80-120	27-APR-21
COMMENTS: RRQC: Silver recovery outside of ALS DQOs due to issue with standard. Reported data is not affect by this issue								
WG3524430-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	27-APR-21
Arsenic (As)			<0.10		mg/kg		0.1	27-APR-21
Barium (Ba)			<0.50		mg/kg		0.5	27-APR-21
Beryllium (Be)			<0.10		mg/kg		0.1	27-APR-21
Boron (B)			<5.0		mg/kg		5	27-APR-21
Cadmium (Cd)			<0.020		mg/kg		0.02	27-APR-21
Chromium (Cr)			<0.50		mg/kg		0.5	27-APR-21
Cobalt (Co)			<0.10		mg/kg		0.1	27-APR-21
Copper (Cu)			<0.50		mg/kg		0.5	27-APR-21
Lead (Pb)			<0.50		mg/kg		0.5	27-APR-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	27-APR-21
Nickel (Ni)			<0.50		mg/kg		0.5	27-APR-21
Selenium (Se)			<0.20		mg/kg		0.2	27-APR-21
Silver (Ag)			<0.10		mg/kg		0.1	27-APR-21
Thallium (Tl)			<0.050		mg/kg		0.05	27-APR-21
Uranium (U)			<0.050		mg/kg		0.05	27-APR-21
Vanadium (V)			<0.20		mg/kg		0.2	27-APR-21
Zinc (Zn)			<2.0		mg/kg		2	27-APR-21

MOISTURE-WT **Soil**



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 6 of 15

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MOISTURE-WT		Soil						
Batch	R5439441							
WG3522058-3	DUP	L2578036-6						
% Moisture		8.25	8.57		%	3.8	20	23-APR-21
WG3522058-2	LCS							
% Moisture			100.8		%		90-110	23-APR-21
WG3522058-1	MB							
% Moisture			<0.25		%		0.25	23-APR-21
Batch	R5439442							
WG3522059-3	DUP	L2578440-2						
% Moisture		7.07	7.08		%	0.2	20	23-APR-21
WG3522059-2	LCS							
% Moisture			99.3		%		90-110	23-APR-21
WG3522059-1	MB							
% Moisture			<0.25		%		0.25	23-APR-21
PAH-511-WT		Soil						
Batch	R5441472							
WG3522436-3	DUP	WG3522436-5						
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	26-APR-21
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	26-APR-21
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Benzo(b&j)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Chrysene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Dibenz(a,h)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	26-APR-21
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	26-APR-21
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	26-APR-21
WG3522436-2	LCS							



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 7 of 15

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT		Soil						
Batch	R5441472							
WG3522436-2	LCS							
1-Methylnaphthalene			90.8		%		50-140	26-APR-21
2-Methylnaphthalene			88.1		%		50-140	26-APR-21
Acenaphthene			88.4		%		50-140	26-APR-21
Acenaphthylene			87.8		%		50-140	26-APR-21
Anthracene			79.5		%		50-140	26-APR-21
Benzo(a)anthracene			96.5		%		50-140	26-APR-21
Benzo(a)pyrene			78.3		%		50-140	26-APR-21
Benzo(b&j)fluoranthene			86.4		%		50-140	26-APR-21
Benzo(g,h,i)perylene			87.5		%		50-140	26-APR-21
Benzo(k)fluoranthene			82.1		%		50-140	26-APR-21
Chrysene			86.6		%		50-140	26-APR-21
Dibenz(a,h)anthracene			86.7		%		50-140	26-APR-21
Fluoranthene			88.1		%		50-140	26-APR-21
Fluorene			88.7		%		50-140	26-APR-21
Indeno(1,2,3-cd)pyrene			93.4		%		50-140	26-APR-21
Naphthalene			84.3		%		50-140	26-APR-21
Phenanthrene			87.0		%		50-140	26-APR-21
Pyrene			87.2		%		50-140	26-APR-21
WG3522436-1	MB							
1-Methylnaphthalene			<0.030		ug/g		0.03	26-APR-21
2-Methylnaphthalene			<0.030		ug/g		0.03	26-APR-21
Acenaphthene			<0.050		ug/g		0.05	26-APR-21
Acenaphthylene			<0.050		ug/g		0.05	26-APR-21
Anthracene			<0.050		ug/g		0.05	26-APR-21
Benzo(a)anthracene			<0.050		ug/g		0.05	26-APR-21
Benzo(a)pyrene			<0.050		ug/g		0.05	26-APR-21
Benzo(b&j)fluoranthene			<0.050		ug/g		0.05	26-APR-21
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	26-APR-21
Benzo(k)fluoranthene			<0.050		ug/g		0.05	26-APR-21
Chrysene			<0.050		ug/g		0.05	26-APR-21
Dibenz(a,h)anthracene			<0.050		ug/g		0.05	26-APR-21
Fluoranthene			<0.050		ug/g		0.05	26-APR-21
Fluorene			<0.050		ug/g		0.05	26-APR-21
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	26-APR-21



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 8 of 15

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch	R5441472							
WG3522436-1 MB								
Naphthalene			<0.013		ug/g		0.013	26-APR-21
Phenanthrene			<0.046		ug/g		0.046	26-APR-21
Pyrene			<0.050		ug/g		0.05	26-APR-21
Surrogate: 2-Fluorobiphenyl			86.2		%		50-140	26-APR-21
Surrogate: d14-Terphenyl			86.3		%		50-140	26-APR-21
WG3522436-4 MS		WG3522436-5						
1-Methylnaphthalene			92.2		%		50-140	26-APR-21
2-Methylnaphthalene			89.4		%		50-140	26-APR-21
Acenaphthene			89.2		%		50-140	26-APR-21
Acenaphthylene			89.0		%		50-140	26-APR-21
Anthracene			80.3		%		50-140	26-APR-21
Benzo(a)anthracene			95.4		%		50-140	26-APR-21
Benzo(a)pyrene			79.2		%		50-140	26-APR-21
Benzo(b&j)fluoranthene			86.6		%		50-140	26-APR-21
Benzo(g,h,i)perylene			86.9		%		50-140	26-APR-21
Benzo(k)fluoranthene			82.4		%		50-140	26-APR-21
Chrysene			87.4		%		50-140	26-APR-21
Dibenz(a,h)anthracene			86.3		%		50-140	26-APR-21
Fluoranthene			88.6		%		50-140	26-APR-21
Fluorene			89.7		%		50-140	26-APR-21
Indeno(1,2,3-cd)pyrene			88.0		%		50-140	26-APR-21
Naphthalene			85.3		%		50-140	26-APR-21
Phenanthrene			87.9		%		50-140	26-APR-21
Pyrene			87.6		%		50-140	26-APR-21
PH-WT	Soil							
Batch	R5440921							
WG3522056-1 DUP		L2578016-1						
pH		8.04	7.96	J	pH units	0.08	0.3	25-APR-21
WG3523716-1 LCS								
pH			7.01		pH units		6.9-7.1	25-APR-21
SAR-R511-WT	Soil							



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 9 of 15

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT		Soil						
Batch	R5442489							
WG3524431-4	DUP	WG3524431-3						
Calcium (Ca)		45.4	44.7		mg/L	1.6	30	28-APR-21
Sodium (Na)		16.3	16.3		mg/L	0.0	30	28-APR-21
Magnesium (Mg)		1.77	1.80		mg/L	1.7	30	28-APR-21
WG3524431-2	IRM	WT SAR4						
Calcium (Ca)			94.4		%		70-130	28-APR-21
Sodium (Na)			89.3		%		70-130	28-APR-21
Magnesium (Mg)			94.0		%		70-130	28-APR-21
WG3524431-5	LCS							
Calcium (Ca)			106.3		%		80-120	28-APR-21
Sodium (Na)			100.8		%		80-120	28-APR-21
Magnesium (Mg)			101.8		%		80-120	28-APR-21
WG3524431-1	MB							
Calcium (Ca)			<0.50		mg/L		0.5	28-APR-21
Sodium (Na)			<0.50		mg/L		0.5	28-APR-21
Magnesium (Mg)			<0.50		mg/L		0.5	28-APR-21
VOC-511-HS-WT		Soil						
Batch	R5437536							
WG3521292-4	DUP	WG3521292-3						
1,1,1,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,1,2,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	22-APR-21
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	22-APR-21
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 10 of 15

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Soil						
Batch	R5437536							
WG3521292-4	DUP	WG3521292-3						
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
cis-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	22-APR-21
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Dichlorodifluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	22-APR-21
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	22-APR-21
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	22-APR-21
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	22-APR-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	22-APR-21
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	22-APR-21
trans-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
trans-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	22-APR-21
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	22-APR-21
Trichlorofluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	22-APR-21
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	22-APR-21
WG3521292-2	LCS							
1,1,1,2-Tetrachloroethane			103.1		%		60-130	22-APR-21
1,1,1,2-Tetrachloroethane			97.0		%		60-130	22-APR-21
1,1,1-Trichloroethane			112.4		%		60-130	22-APR-21
1,1,2-Trichloroethane			97.0		%		60-130	22-APR-21
1,1-Dichloroethane			89.1		%		60-130	22-APR-21
1,1-Dichloroethylene			121.0		%		60-130	22-APR-21
1,2-Dibromoethane			97.5		%		70-130	22-APR-21
1,2-Dichlorobenzene			113.1		%		70-130	22-APR-21



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 11 of 15

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Soil						
Batch	R5437536							
WG3521292-2	LCS							
1,2-Dichloroethane			115.0		%		60-130	22-APR-21
1,2-Dichloropropane			119.3		%		70-130	22-APR-21
1,3-Dichlorobenzene			115.7		%		70-130	22-APR-21
1,4-Dichlorobenzene			114.7		%		70-130	22-APR-21
Acetone			121.0		%		60-140	22-APR-21
Benzene			116.7		%		70-130	22-APR-21
Bromodichloromethane			123.7		%		50-140	22-APR-21
Bromoform			99.2		%		70-130	22-APR-21
Bromomethane			96.6		%		50-140	22-APR-21
Carbon tetrachloride			123.8		%		70-130	22-APR-21
Chlorobenzene			106.8		%		70-130	22-APR-21
Chloroform			121.2		%		70-130	22-APR-21
cis-1,2-Dichloroethylene			114.7		%		70-130	22-APR-21
cis-1,3-Dichloropropene			119.0		%		70-130	22-APR-21
Dibromochloromethane			97.6		%		60-130	22-APR-21
Dichlorodifluoromethane			64.2		%		50-140	22-APR-21
Ethylbenzene			103.6		%		70-130	22-APR-21
n-Hexane			116.1		%		70-130	22-APR-21
Methylene Chloride			120.3		%		70-130	22-APR-21
MTBE			110.0		%		70-130	22-APR-21
m+p-Xylenes			109.0		%		70-130	22-APR-21
Methyl Ethyl Ketone			101.2		%		60-140	22-APR-21
Methyl Isobutyl Ketone			109.4		%		60-140	22-APR-21
o-Xylene			108.0		%		70-130	22-APR-21
Styrene			104.1		%		70-130	22-APR-21
Tetrachloroethylene			106.0		%		60-130	22-APR-21
Toluene			94.7		%		70-130	22-APR-21
trans-1,2-Dichloroethylene			120.6		%		60-130	22-APR-21
trans-1,3-Dichloropropene			99.6		%		70-130	22-APR-21
Trichloroethylene			125.1		%		60-130	22-APR-21
Trichlorofluoromethane			108.0		%		50-140	22-APR-21
Vinyl chloride			108.9		%		60-140	22-APR-21
WG3521292-1	MB							
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	22-APR-21



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 12 of 15

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Soil						
Batch	R5437536							
WG3521292-1	MB							
1,1,2,2-Tetrachloroethane			<0.050		ug/g		0.05	22-APR-21
1,1,1-Trichloroethane			<0.050		ug/g		0.05	22-APR-21
1,1,2-Trichloroethane			<0.050		ug/g		0.05	22-APR-21
1,1-Dichloroethane			<0.050		ug/g		0.05	22-APR-21
1,1-Dichloroethylene			<0.050		ug/g		0.05	22-APR-21
1,2-Dibromoethane			<0.050		ug/g		0.05	22-APR-21
1,2-Dichlorobenzene			<0.050		ug/g		0.05	22-APR-21
1,2-Dichloroethane			<0.050		ug/g		0.05	22-APR-21
1,2-Dichloropropane			<0.050		ug/g		0.05	22-APR-21
1,3-Dichlorobenzene			<0.050		ug/g		0.05	22-APR-21
1,4-Dichlorobenzene			<0.050		ug/g		0.05	22-APR-21
Acetone			<0.50		ug/g		0.5	22-APR-21
Benzene			<0.0068		ug/g		0.0068	22-APR-21
Bromodichloromethane			<0.050		ug/g		0.05	22-APR-21
Bromoform			<0.050		ug/g		0.05	22-APR-21
Bromomethane			<0.050		ug/g		0.05	22-APR-21
Carbon tetrachloride			<0.050		ug/g		0.05	22-APR-21
Chlorobenzene			<0.050		ug/g		0.05	22-APR-21
Chloroform			<0.050		ug/g		0.05	22-APR-21
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	22-APR-21
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	22-APR-21
Dibromochloromethane			<0.050		ug/g		0.05	22-APR-21
Dichlorodifluoromethane			<0.050		ug/g		0.05	22-APR-21
Ethylbenzene			<0.018		ug/g		0.018	22-APR-21
n-Hexane			<0.050		ug/g		0.05	22-APR-21
Methylene Chloride			<0.050		ug/g		0.05	22-APR-21
MTBE			<0.050		ug/g		0.05	22-APR-21
m+p-Xylenes			<0.030		ug/g		0.03	22-APR-21
Methyl Ethyl Ketone			<0.50		ug/g		0.5	22-APR-21
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	22-APR-21
o-Xylene			<0.020		ug/g		0.02	22-APR-21
Styrene			<0.050		ug/g		0.05	22-APR-21
Tetrachloroethylene			<0.050		ug/g		0.05	22-APR-21



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 13 of 15

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Soil						
Batch	R5437536							
WG3521292-1	MB							
Toluene			<0.080		ug/g		0.08	22-APR-21
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	22-APR-21
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	22-APR-21
Trichloroethylene			<0.010		ug/g		0.01	22-APR-21
Trichlorofluoromethane			<0.050		ug/g		0.05	22-APR-21
Vinyl chloride			<0.020		ug/g		0.02	22-APR-21
Surrogate: 1,4-Difluorobenzene			143.4	SURQC	%		50-140	22-APR-21
Surrogate: 4-Bromofluorobenzene			96.0		%		50-140	22-APR-21
WG3521292-5	MS	WG3521292-3						
1,1,1,2-Tetrachloroethane			109.2		%		50-140	22-APR-21
1,1,2,2-Tetrachloroethane			108.1		%		50-140	22-APR-21
1,1,1-Trichloroethane			118.9		%		50-140	22-APR-21
1,1,2-Trichloroethane			107.4		%		50-140	22-APR-21
1,1-Dichloroethane			97.1		%		50-140	22-APR-21
1,1-Dichloroethylene			132.3		%		50-140	22-APR-21
1,2-Dibromoethane			110.2		%		50-140	22-APR-21
1,2-Dichlorobenzene			117.7		%		50-140	22-APR-21
1,2-Dichloroethane			129.9		%		50-140	22-APR-21
1,2-Dichloropropane			130.5		%		50-140	22-APR-21
1,3-Dichlorobenzene			118.0		%		50-140	22-APR-21
1,4-Dichlorobenzene			117.7		%		50-140	22-APR-21
Acetone			148.9	MES	%		50-140	22-APR-21
Benzene			126.2		%		50-140	22-APR-21
Bromodichloromethane			134.8		%		50-140	22-APR-21
Bromoform			110.5		%		50-140	22-APR-21
Bromomethane			113.2		%		50-140	22-APR-21
Carbon tetrachloride			130.7		%		50-140	22-APR-21
Chlorobenzene			112.7		%		50-140	22-APR-21
Chloroform			130.9		%		50-140	22-APR-21
cis-1,2-Dichloroethylene			124.6		%		50-140	22-APR-21
cis-1,3-Dichloropropene			130.8		%		50-140	22-APR-21
Dibromochloromethane			106.7		%		50-140	22-APR-21
Dichlorodifluoromethane			106.4		%		50-140	22-APR-21
Ethylbenzene			107.4		%		50-140	22-APR-21



Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Page 14 of 15

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Soil							
Batch	R5437536							
WG3521292-5 MS		WG3521292-3						
n-Hexane			129.8		%		50-140	22-APR-21
Methylene Chloride			135.9		%		50-140	22-APR-21
MTBE			115.0		%		50-140	22-APR-21
m+p-Xylenes			113.1		%		50-140	22-APR-21
Methyl Ethyl Ketone			127.7		%		50-140	22-APR-21
Methyl Isobutyl Ketone			128.4		%		50-140	22-APR-21
o-Xylene			112.7		%		50-140	22-APR-21
Styrene			109.9		%		50-140	22-APR-21
Tetrachloroethylene			109.1		%		50-140	22-APR-21
Toluene			99.5		%		50-140	22-APR-21
trans-1,2-Dichloroethylene			129.2		%		50-140	22-APR-21
trans-1,3-Dichloropropene			109.7		%		50-140	22-APR-21
Trichloroethylene			132.0		%		50-140	22-APR-21
Trichlorofluoromethane			121.2		%		50-140	22-APR-21
Vinyl chloride			131.8		%		50-140	22-APR-21

Quality Control Report

Workorder: L2578440

Report Date: 26-MAY-21

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Page 15 of 15

Contact: KEITH CLARKE

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.
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.
RRQC	Refer to report remarks for information regarding this QC result.
SURQC	Surrogate recovery marginally exceeded DQO in QC sample (MB, LCS, RM, or MS). Surrogates are less important for QC samples than for test samples. Refer to regular (non-surrogate) analyte results in affected QC sample for assessment of potential impacts to those analytes.

Hold Time Exceedances:

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

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

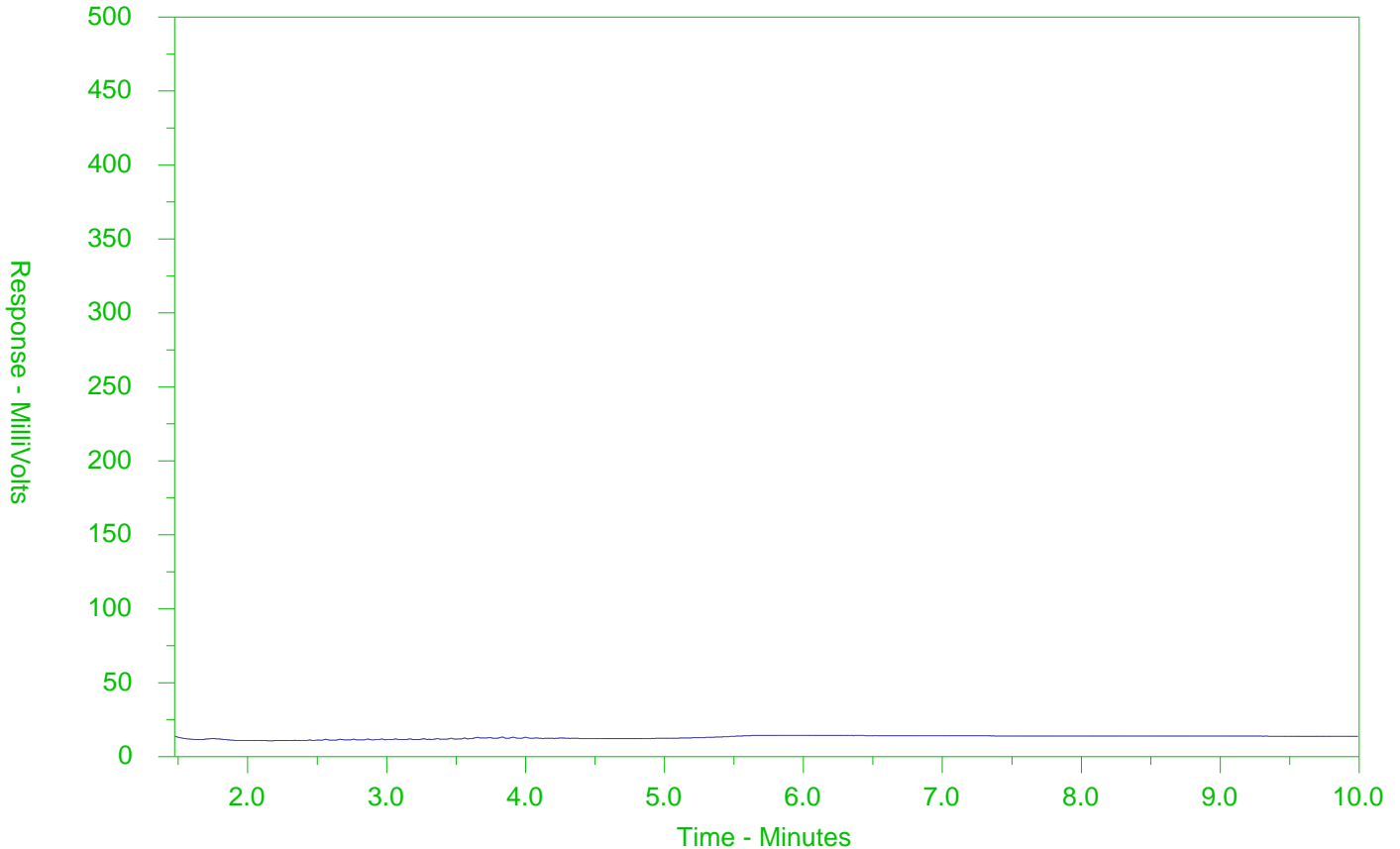
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2578440-2
 Client Sample ID: MW21-1 SS4



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

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

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

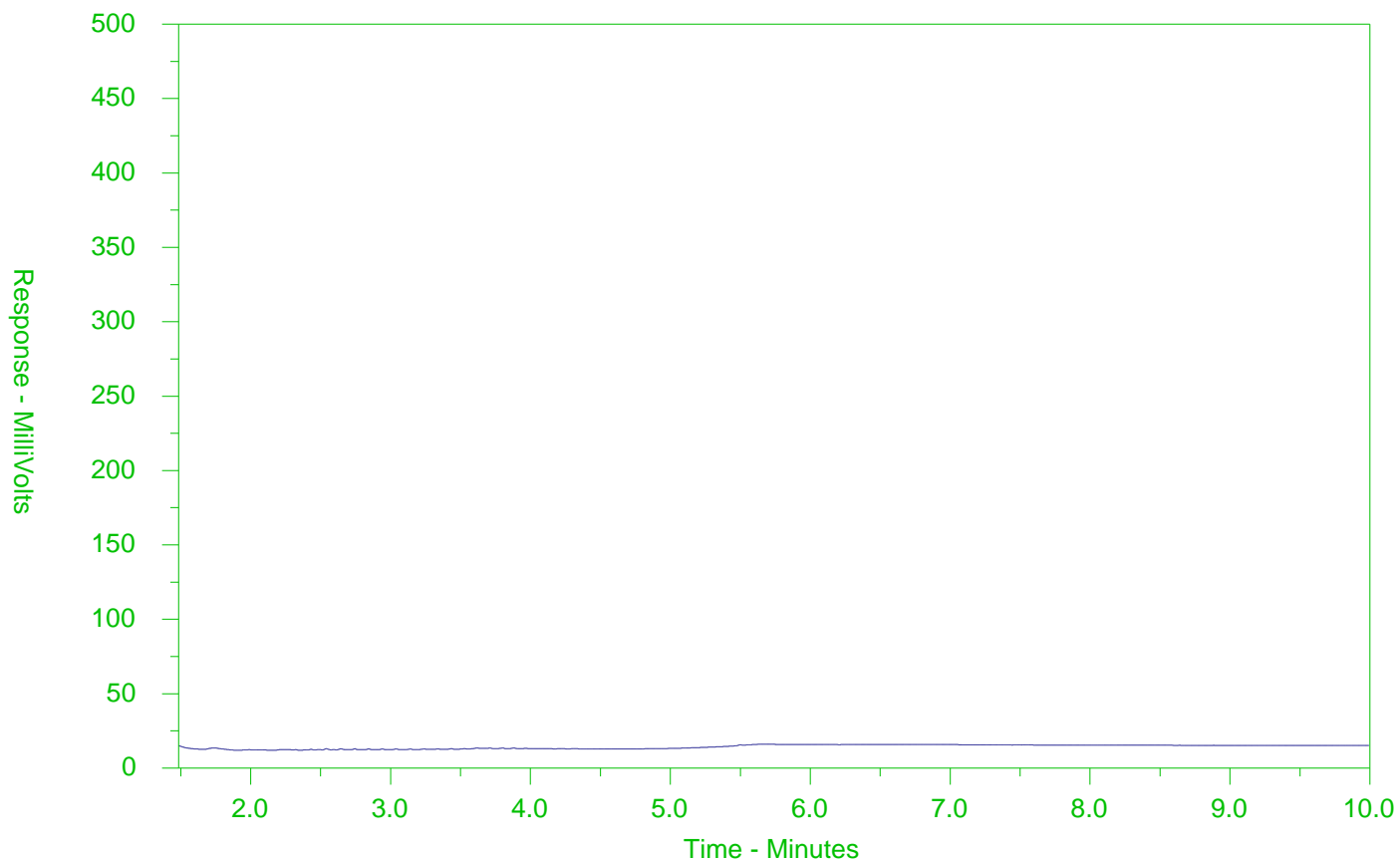
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2578440-4
 Client Sample ID: MW21-10 SS3



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

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

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

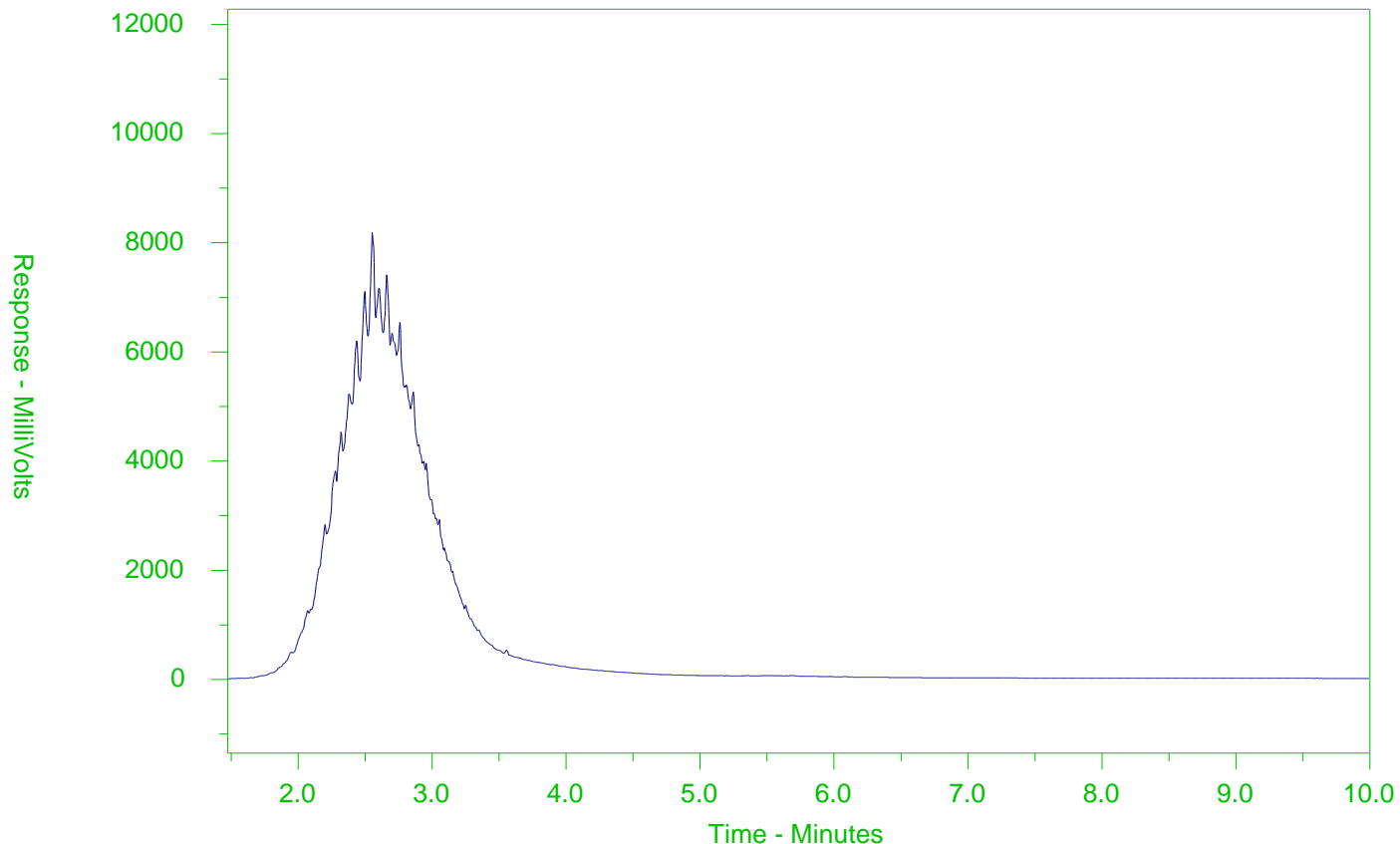
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2578440-5
 Client Sample ID: GS1



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

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

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

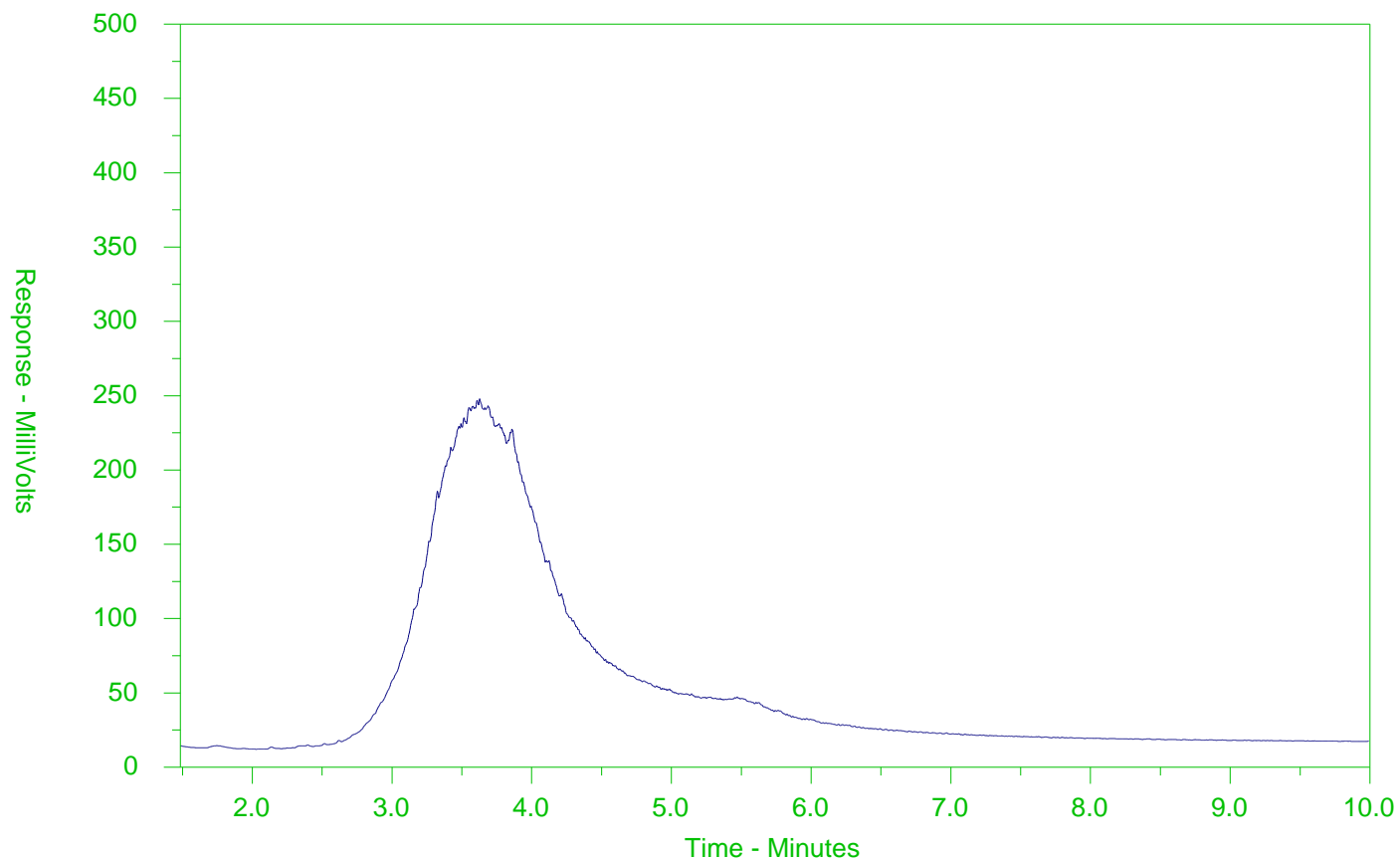
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2578440-6
 Client Sample ID: GS2



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

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

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

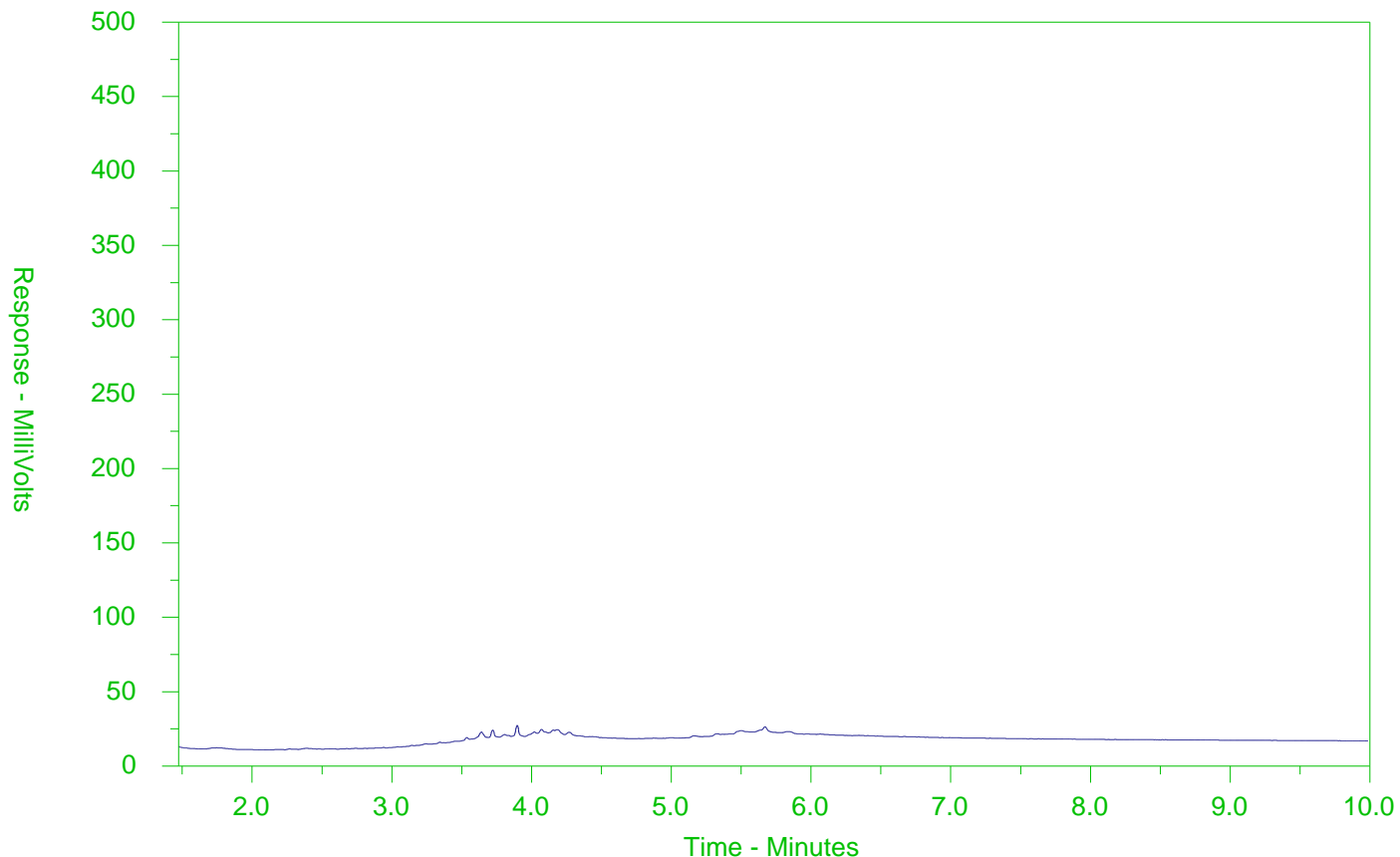
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2578440-7
 Client Sample ID: GS3



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

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

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

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

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



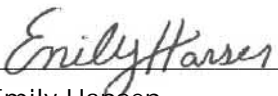
DS Consultants (Cambridge)
ATTN: KEITH CLARKE
380 Jamieson Parkway
Unit 6
Cambridge ON N3C 4N4

Date Received: 30-APR-21
Report Date: 17-MAY-21 11:34 (MT)
Version: FINAL

Client Phone: 519-260-9393

Certificate of Analysis

Lab Work Order #: L2582555
Project P.O. #: NOT SUBMITTED
Job Reference: 21-129-300
C of C Numbers: 17-639655
Legal Site Desc:



Emily Hansen
Account Manager

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ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2582555-1	MW21-11 SS1								
Sampled By: CLIENT on 29-APR-21									
Matrix: SOIL									
Physical Tests									
Conductivity		0.648		0.0040	mS/cm	10-MAY-21	*0.57	0.7	0.7
% Moisture		13.2		0.25	%	07-MAY-21			
pH		7.52		0.10	pH units	07-MAY-21			
Cyanides									
Cyanide, Weak Acid Diss		<0.050		0.050	ug/g	07-MAY-21	0.051	0.051	0.051
Saturated Paste Extractables									
SAR		0.35		0.10	SAR	10-MAY-21	2.4	5	5
Calcium (Ca)		114		0.50	mg/L	10-MAY-21			
Magnesium (Mg)		13.6		0.50	mg/L	10-MAY-21			
Sodium (Na)		15.0		0.50	mg/L	10-MAY-21			
Metals									
Antimony (Sb)		<1.0		1.0	ug/g	10-MAY-21	1.3	7.5	7.5
Arsenic (As)		3.5		1.0	ug/g	10-MAY-21	18	18	18
Barium (Ba)		40.3		1.0	ug/g	10-MAY-21	220	390	390
Beryllium (Be)		<0.50		0.50	ug/g	10-MAY-21	2.5	4	5
Boron (B)		<5.0		5.0	ug/g	10-MAY-21	36	120	120
Boron (B), Hot Water Ext.		0.53		0.10	ug/g	10-MAY-21	36	1.5	1.5
Cadmium (Cd)		<0.50		0.50	ug/g	10-MAY-21	1.2	1.2	1.2
Chromium (Cr)		14.8		1.0	ug/g	10-MAY-21	70	160	160
Cobalt (Co)		5.4		1.0	ug/g	10-MAY-21	21	22	22
Copper (Cu)		10.3		1.0	ug/g	10-MAY-21	92	140	180
Lead (Pb)		30.3		1.0	ug/g	10-MAY-21	120	120	120
Mercury (Hg)		0.0485		0.0050	ug/g	10-MAY-21	0.27	0.27	1.8
Molybdenum (Mo)		<1.0		1.0	ug/g	10-MAY-21	2	6.9	6.9
Nickel (Ni)		8.8		1.0	ug/g	10-MAY-21	82	100	130
Selenium (Se)		<1.0		1.0	ug/g	10-MAY-21	1.5	2.4	2.4
Silver (Ag)		<0.20		0.20	ug/g	10-MAY-21	0.5	20	25
Thallium (Tl)		<0.50		0.50	ug/g	10-MAY-21	1	1	1
Uranium (U)		<1.0		1.0	ug/g	10-MAY-21	2.5	23	23
Vanadium (V)		33.1		1.0	ug/g	10-MAY-21	86	86	86
Zinc (Zn)		116		5.0	ug/g	10-MAY-21	290	340	340
Speciated Metals									
Chromium, Hexavalent		<0.20		0.20	ug/g	10-MAY-21	0.66	8	10
L2582555-2	MW21-11 SS7								
Sampled By: CLIENT on 29-APR-21									
Matrix: SOIL									
Physical Tests									
% Moisture		7.16		0.25	%	07-MAY-21			
Volatile Organic Compounds									
Acetone		<0.50		0.50	ug/g	12-MAY-21	0.5	16	28
Benzene		<0.0068		0.0068	ug/g	12-MAY-21	0.02	0.21	0.17
Bromodichloromethane		<0.050		0.050	ug/g	12-MAY-21	0.05	1.5	1.9
Bromoform		<0.050		0.050	ug/g	12-MAY-21	0.05	0.27	0.26
Bromomethane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2582555-2	MW21-11 SS7								
Sampled By:	CLIENT on 29-APR-21								
Matrix:	SOIL								
Volatile Organic Compounds									
	Carbon tetrachloride	<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.12
	Chlorobenzene	<0.050		0.050	ug/g	12-MAY-21	0.05	2.4	2.7
	Dibromochloromethane	<0.050		0.050	ug/g	12-MAY-21	0.05	2.3	2.9
	Chloroform	<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.18
	1,2-Dibromoethane	<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
	1,2-Dichlorobenzene	<0.050		0.050	ug/g	12-MAY-21	0.05	1.2	1.7
	1,3-Dichlorobenzene	<0.050		0.050	ug/g	12-MAY-21	0.05	4.8	6
	1,4-Dichlorobenzene	<0.050		0.050	ug/g	12-MAY-21	0.05	0.083	0.097
	Dichlorodifluoromethane	<0.050		0.050	ug/g	12-MAY-21	0.05	16	25
	1,1-Dichloroethane	<0.050		0.050	ug/g	12-MAY-21	0.05	0.47	0.6
	1,2-Dichloroethane	<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
	1,1-Dichloroethylene	<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
	cis-1,2-Dichloroethylene	<0.050		0.050	ug/g	12-MAY-21	0.05	1.9	2.5
	trans-1,2-Dichloroethylene	<0.050		0.050	ug/g	12-MAY-21	0.05	0.084	0.75
	Methylene Chloride	<0.050		0.050	ug/g	12-MAY-21	0.05	0.1	0.96
	1,2-Dichloropropane	<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.085
	cis-1,3-Dichloropropene	<0.030		0.030	ug/g	12-MAY-21			
	trans-1,3-Dichloropropene	<0.030		0.030	ug/g	12-MAY-21			
	1,3-Dichloropropene (cis & trans)	<0.042		0.042	ug/g	12-MAY-21	0.05	0.05	0.081
	Ethylbenzene	<0.018		0.018	ug/g	12-MAY-21	0.05	1.1	1.6
	n-Hexane	<0.050		0.050	ug/g	12-MAY-21	0.05	2.8	34
	Methyl Ethyl Ketone	<0.50		0.50	ug/g	12-MAY-21	0.5	16	44
	Methyl Isobutyl Ketone	<0.50		0.50	ug/g	12-MAY-21	0.5	1.7	4.3
	MTBE	<0.050		0.050	ug/g	12-MAY-21	0.05	0.75	1.4
	Styrene	<0.050		0.050	ug/g	12-MAY-21	0.05	0.7	2.2
	1,1,1,2-Tetrachloroethane	<0.050		0.050	ug/g	12-MAY-21	0.05	0.058	0.05
	1,1,2,2-Tetrachloroethane	<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
	Tetrachloroethylene	<0.050		0.050	ug/g	12-MAY-21	0.05	0.28	2.3
	Toluene	<0.080		0.080	ug/g	12-MAY-21	0.2	2.3	6
	1,1,1-Trichloroethane	<0.050		0.050	ug/g	12-MAY-21	0.05	0.38	3.4
	1,1,2-Trichloroethane	<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
	Trichloroethylene	<0.010		0.010	ug/g	12-MAY-21	0.05	0.061	0.52
	Trichlorofluoromethane	<0.050		0.050	ug/g	12-MAY-21	0.25	4	5.8
	Vinyl chloride	<0.020		0.020	ug/g	12-MAY-21	0.02	0.02	0.022
	o-Xylene	<0.020		0.020	ug/g	12-MAY-21			
	m+p-Xylenes	<0.030		0.030	ug/g	12-MAY-21			
	Xylenes (Total)	<0.050		0.050	ug/g	12-MAY-21	0.05	3.1	25
	Surrogate: 4-Bromofluorobenzene	93.5		50-140	%	12-MAY-21			
	Surrogate: 1,4-Difluorobenzene	111.3		50-140	%	12-MAY-21			
Hydrocarbons									
	F1 (C6-C10)	<5.0		5.0	ug/g	12-MAY-21	25	55	65
	F1-BTEX	<5.0		5.0	ug/g	12-MAY-21	25	55	65
	F2 (C10-C16)	<10		10	ug/g	10-MAY-21	10	98	150
	F3 (C16-C34)	<50		50	ug/g	10-MAY-21	240	300	1300
	F4 (C34-C50)	<50		50	ug/g	10-MAY-21	120	2800	5600
	Total Hydrocarbons (C6-C50)	<72		72	ug/g	12-MAY-21			

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#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2582555-2	MW21-11 SS7								
Sampled By: CLIENT on 29-APR-21									
Matrix: SOIL									
Hydrocarbons									
Chrom. to baseline at nC50		YES			No Unit	10-MAY-21			
Surrogate: 2-Bromobenzotrifluoride		115.9		60-140	%	10-MAY-21			
Surrogate: 3,4-Dichlorotoluene		104.5		60-140	%	12-MAY-21			
L2582555-3	BH21-12 SS1								
Sampled By: CLIENT on 29-APR-21									
Matrix: SOIL									
Physical Tests									
% Moisture		12.5		0.25	%	07-MAY-21			
Volatile Organic Compounds									
Acetone		<0.50		0.50	ug/g	12-MAY-21	0.5	16	28
Benzene		<0.0068		0.0068	ug/g	12-MAY-21	0.02	0.21	0.17
Bromodichloromethane		<0.050		0.050	ug/g	12-MAY-21	0.05	1.5	1.9
Bromoform		<0.050		0.050	ug/g	12-MAY-21	0.05	0.27	0.26
Bromomethane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
Carbon tetrachloride		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.12
Chlorobenzene		<0.050		0.050	ug/g	12-MAY-21	0.05	2.4	2.7
Dibromochloromethane		<0.050		0.050	ug/g	12-MAY-21	0.05	2.3	2.9
Chloroform		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.18
1,2-Dibromoethane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
1,2-Dichlorobenzene		<0.050		0.050	ug/g	12-MAY-21	0.05	1.2	1.7
1,3-Dichlorobenzene		<0.050		0.050	ug/g	12-MAY-21	0.05	4.8	6
1,4-Dichlorobenzene		<0.050		0.050	ug/g	12-MAY-21	0.05	0.083	0.097
Dichlorodifluoromethane		<0.050		0.050	ug/g	12-MAY-21	0.05	16	25
1,1-Dichloroethane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.47	0.6
1,2-Dichloroethane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
1,1-Dichloroethylene		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
cis-1,2-Dichloroethylene		<0.050		0.050	ug/g	12-MAY-21	0.05	1.9	2.5
trans-1,2-Dichloroethylene		<0.050		0.050	ug/g	12-MAY-21	0.05	0.084	0.75
Methylene Chloride		<0.050		0.050	ug/g	12-MAY-21	0.05	0.1	0.96
1,2-Dichloropropane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.085
cis-1,3-Dichloropropene		<0.030		0.030	ug/g	12-MAY-21			
trans-1,3-Dichloropropene		<0.030		0.030	ug/g	12-MAY-21			
1,3-Dichloropropene (cis & trans)		<0.042		0.042	ug/g	12-MAY-21	0.05	0.05	0.081
Ethylbenzene		<0.018		0.018	ug/g	12-MAY-21	0.05	1.1	1.6
n-Hexane		<0.050		0.050	ug/g	12-MAY-21	0.05	2.8	34
Methyl Ethyl Ketone		<0.50		0.50	ug/g	12-MAY-21	0.5	16	44
Methyl Isobutyl Ketone		<0.50		0.50	ug/g	12-MAY-21	0.5	1.7	4.3
MTBE		<0.050		0.050	ug/g	12-MAY-21	0.05	0.75	1.4
Styrene		<0.050		0.050	ug/g	12-MAY-21	0.05	0.7	2.2
1,1,1,2-Tetrachloroethane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.058	0.05
1,1,1,2,2-Tetrachloroethane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05
Tetrachloroethylene		<0.050		0.050	ug/g	12-MAY-21	0.05	0.28	2.3
Toluene		<0.080		0.080	ug/g	12-MAY-21	0.2	2.3	6
1,1,1-Trichloroethane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.38	3.4
1,1,2-Trichloroethane		<0.050		0.050	ug/g	12-MAY-21	0.05	0.05	0.05

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#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2582555-3 BH21-12 SS1									
Sampled By: CLIENT on 29-APR-21									
Matrix: SOIL									
Volatile Organic Compounds									
	Trichloroethylene	<0.010		0.010	ug/g	12-MAY-21	0.05	0.061	0.52
	Trichlorofluoromethane	<0.050		0.050	ug/g	12-MAY-21	0.25	4	5.8
	Vinyl chloride	<0.020		0.020	ug/g	12-MAY-21	0.02	0.02	0.022
	o-Xylene	<0.020		0.020	ug/g	12-MAY-21			
	m+p-Xylenes	<0.030		0.030	ug/g	12-MAY-21			
	Xylenes (Total)	<0.050		0.050	ug/g	12-MAY-21	0.05	3.1	25
	Surrogate: 4-Bromofluorobenzene	86.5		50-140	%	12-MAY-21			
	Surrogate: 1,4-Difluorobenzene	105.4		50-140	%	12-MAY-21			
Hydrocarbons									
	F1 (C6-C10)	<5.0		5.0	ug/g	12-MAY-21	25	55	65
	F1-BTEX	<5.0		5.0	ug/g	17-MAY-21	25	55	65
	F2 (C10-C16)	<10		10	ug/g	10-MAY-21	10	98	150
	F2-Naphth	<10		10	ug/g	17-MAY-21			
	F3 (C16-C34)	390		50	ug/g	10-MAY-21	*240	*300	1300
	F3-PAH	390		50	ug/g	17-MAY-21			
	F4 (C34-C50)	1270		50	ug/g	10-MAY-21	*120	2800	5600
	F4G-SG (GHH-Silica)	2670		250	ug/g	10-MAY-21	*120	2800	5600
	Total Hydrocarbons (C6-C50)	1660		72	ug/g	17-MAY-21			
	Chrom. to baseline at nC50	NO			No Unit	10-MAY-21			
	Surrogate: 2-Bromobenzotrifluoride	97.6		60-140	%	10-MAY-21			
	Surrogate: 3,4-Dichlorotoluene	80.8		60-140	%	12-MAY-21			
Polycyclic Aromatic Hydrocarbons									
	Acenaphthene	<0.050		0.050	ug/g	17-MAY-21	0.072	7.9	29
	Acenaphthylene	<0.050		0.050	ug/g	17-MAY-21	0.093	0.15	0.17
	Anthracene	<0.050		0.050	ug/g	17-MAY-21	0.16	0.67	0.74
	Benzo(a)anthracene	<0.050		0.050	ug/g	17-MAY-21	0.36	0.5	0.63
	Benzo(a)pyrene	<0.050		0.050	ug/g	17-MAY-21	0.3	0.3	0.3
	Benzo(b&j)fluoranthene	<0.050		0.050	ug/g	17-MAY-21	0.47	0.78	0.78
	Benzo(g,h,i)perylene	<0.050		0.050	ug/g	17-MAY-21	0.68	6.6	7.8
	Benzo(k)fluoranthene	<0.050		0.050	ug/g	17-MAY-21	0.48	0.78	0.78
	Chrysene	<0.050		0.050	ug/g	17-MAY-21	2.8	7	7.8
	Dibenz(a,h)anthracene	<0.050		0.050	ug/g	17-MAY-21	0.1	0.1	0.1
	Fluoranthene	<0.050		0.050	ug/g	17-MAY-21	0.56	0.69	0.69
	Fluorene	<0.050		0.050	ug/g	17-MAY-21	0.12	62	69
	Indeno(1,2,3-cd)pyrene	<0.050		0.050	ug/g	17-MAY-21	0.23	0.38	0.48
	1+2-Methylnaphthalenes	<0.042		0.042	ug/g	17-MAY-21	0.59	0.99	3.4
	1-Methylnaphthalene	<0.030		0.030	ug/g	17-MAY-21	0.59	0.99	3.4
	2-Methylnaphthalene	<0.030		0.030	ug/g	17-MAY-21	0.59	0.99	3.4
	Naphthalene	<0.013		0.013	ug/g	17-MAY-21	0.09	0.6	0.75
	Phenanthrene	<0.046		0.046	ug/g	17-MAY-21	0.69	6.2	7.8
	Pyrene	<0.050		0.050	ug/g	17-MAY-21	1	78	78
	Surrogate: 2-Fluorobiphenyl	90.6		50-140	%	17-MAY-21			
	Surrogate: d14-Terphenyl	97.0		50-140	%	17-MAY-21			

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#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2582555-4	BH21-12 SS2								
Sampled By: CLIENT on 29-APR-21									
Matrix: SOIL									
Physical Tests									
	Conductivity	0.250		0.0040	mS/cm	10-MAY-21	0.57	0.7	0.7
	% Moisture	12.0		0.25	%	07-MAY-21			
	pH	7.79		0.10	pH units	07-MAY-21			
Cyanides									
	Cyanide, Weak Acid Diss	<0.050		0.050	ug/g	07-MAY-21	0.051	0.051	0.051
Saturated Paste Extractables									
	SAR	0.26		0.10	SAR	10-MAY-21	2.4	5	5
	Calcium (Ca)	38.6		0.50	mg/L	10-MAY-21			
	Magnesium (Mg)	5.53		0.50	mg/L	10-MAY-21			
	Sodium (Na)	6.46		0.50	mg/L	10-MAY-21			
Metals									
	Antimony (Sb)	<1.0		1.0	ug/g	10-MAY-21	1.3	7.5	7.5
	Arsenic (As)	3.5		1.0	ug/g	10-MAY-21	18	18	18
	Barium (Ba)	29.3		1.0	ug/g	10-MAY-21	220	390	390
	Beryllium (Be)	<0.50		0.50	ug/g	10-MAY-21	2.5	4	5
	Boron (B)	6.5		5.0	ug/g	10-MAY-21	36	120	120
	Boron (B), Hot Water Ext.	0.40		0.10	ug/g	10-MAY-21	36	1.5	1.5
	Cadmium (Cd)	0.50		0.50	ug/g	10-MAY-21	1.2	1.2	1.2
	Chromium (Cr)	12.6		1.0	ug/g	10-MAY-21	70	160	160
	Cobalt (Co)	4.1		1.0	ug/g	10-MAY-21	21	22	22
	Copper (Cu)	15.5		1.0	ug/g	10-MAY-21	92	140	180
	Lead (Pb)	40.4		1.0	ug/g	10-MAY-21	120	120	120
	Mercury (Hg)	0.0536		0.0050	ug/g	10-MAY-21	0.27	0.27	1.8
	Molybdenum (Mo)	<1.0		1.0	ug/g	10-MAY-21	2	6.9	6.9
	Nickel (Ni)	8.6		1.0	ug/g	10-MAY-21	82	100	130
	Selenium (Se)	<1.0		1.0	ug/g	10-MAY-21	1.5	2.4	2.4
	Silver (Ag)	<0.20		0.20	ug/g	10-MAY-21	0.5	20	25
	Thallium (Tl)	<0.50		0.50	ug/g	10-MAY-21	1	1	1
	Uranium (U)	<1.0		1.0	ug/g	10-MAY-21	2.5	23	23
	Vanadium (V)	24.0		1.0	ug/g	10-MAY-21	86	86	86
	Zinc (Zn)	167		5.0	ug/g	10-MAY-21	290	340	340
Speciated Metals									
	Chromium, Hexavalent	<0.20		0.20	ug/g	10-MAY-21	0.66	8	10

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-SOIL-RPIICC/RPI-C/F

#1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

#2: T2-Soil-Res/Park/Inst. Property Use (Coarse)

#3: T2-Soil-Res/Park/Inst. Property Use (Fine)

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 (July 2011)	MOE 3015/APHA 4500CN I-WAD
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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
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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
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A representative subsample is tumbled with de-ionized (DI) water. The ratio of water to soil is 2:1 v/w. After tumbling the sample is then analyzed by a conductivity meter.

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

F1-F4-511-CALC-WT	Soil	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-S
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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
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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-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 200.2/6020B (mod)

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

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

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

METHYLNAPS-CALC-WT Soil ABN-Calculated Parameters SW846 8270

MOISTURE-WT Soil % Moisture CCME PHC in Soil - Tier 1 (mod)

PAH-511-WT Soil PAH-O.Reg 153/04 (July 2011) SW846 3510/8270

A representative sub-sample of soil is fortified with deuterium-labelled surrogates and a mechanical shaking 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 pH MOEE E3137A

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

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

Reference Information

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

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

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

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:

17-639655

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

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

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

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



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 1 of 14

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT								
	Soil							
Batch	R5455285							
WG3531577-4	DUP	L2582802-1						
Boron (B), Hot Water Ext.		0.15	0.16		ug/g	7.3	30	10-MAY-21
WG3531577-2	IRM	WT SAR4						
Boron (B), Hot Water Ext.			109.4		%		70-130	10-MAY-21
WG3531577-3	LCS							
Boron (B), Hot Water Ext.			107.0		%		70-130	10-MAY-21
WG3531577-1	MB							
Boron (B), Hot Water Ext.			<0.10		ug/g		0.1	10-MAY-21
CN-WAD-R511-WT								
	Soil							
Batch	R5454180							
WG3530164-3	DUP	L2582381-8						
Cyanide, Weak Acid Diss		<0.050	<0.050	RPD-NA	ug/g	N/A	35	07-MAY-21
WG3530164-2	LCS							
Cyanide, Weak Acid Diss			84.1		%		80-120	07-MAY-21
WG3530164-1	MB							
Cyanide, Weak Acid Diss			<0.050		ug/g		0.05	07-MAY-21
WG3530164-4	MS	L2582381-8						
Cyanide, Weak Acid Diss			94.2		%		70-130	07-MAY-21
CR-CR6-IC-WT								
	Soil							
Batch	R5455271							
WG3530317-8	CRM	WT-SQC012						
Chromium, Hexavalent			101.3		%		70-130	10-MAY-21
WG3530317-7	DUP	L2582616-15						
Chromium, Hexavalent		0.40	0.48		ug/g	18	35	10-MAY-21
WG3530317-6	LCS							
Chromium, Hexavalent			94.6		%		80-120	10-MAY-21
WG3530317-5	MB							
Chromium, Hexavalent			<0.20		ug/g		0.2	10-MAY-21
EC-WT								
	Soil							
Batch	R5455229							
WG3531583-4	DUP	WG3531583-3						
Conductivity		0.648	0.622		mS/cm	4.1	20	10-MAY-21
WG3531583-2	IRM	WT SAR4						
Conductivity			91.5		%		70-130	10-MAY-21
WG3531840-1	LCS							
Conductivity			96.5		%		90-110	10-MAY-21
WG3531583-1	MB							



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 2 of 14

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-WT		Soil						
Batch	R5455229							
WG3531583-1	MB							
Conductivity			<0.0040		mS/cm		0.004	10-MAY-21
F1-HS-511-WT		Soil						
Batch	R5456432							
WG3528806-4	DUP	WG3528806-3						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	12-MAY-21
WG3528806-2	LCS							
F1 (C6-C10)			106.1		%		80-120	12-MAY-21
WG3528806-1	MB							
F1 (C6-C10)			<5.0		ug/g		5	12-MAY-21
Surrogate: 3,4-Dichlorotoluene			108.3		%		60-140	12-MAY-21
WG3528806-5	MS	WG3528806-3						
F1 (C6-C10)			122.8		%		60-140	12-MAY-21
F2-F4-511-WT		Soil						
Batch	R5455273							
WG3530543-3	DUP	WG3530543-5						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	10-MAY-21
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	10-MAY-21
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	10-MAY-21
WG3530543-2	LCS							
F2 (C10-C16)			96.2		%		80-120	10-MAY-21
F3 (C16-C34)			100.2		%		80-120	10-MAY-21
F4 (C34-C50)			104.8		%		80-120	10-MAY-21
WG3530543-1	MB							
F2 (C10-C16)			<10		ug/g		10	10-MAY-21
F3 (C16-C34)			<50		ug/g		50	10-MAY-21
F4 (C34-C50)			<50		ug/g		50	10-MAY-21
Surrogate: 2-Bromobenzotrifluoride			110.9		%		60-140	10-MAY-21
WG3530543-4	MS	WG3530543-5						
F2 (C10-C16)			118.1		%		60-140	10-MAY-21
F3 (C16-C34)			123.3		%		60-140	10-MAY-21
F4 (C34-C50)			130.9		%		60-140	10-MAY-21
F4G-ADD-511-WT		Soil						



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 3 of 14

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F4G-ADD-511-WT	Soil							
Batch R5455331								
WG3532090-2 LCS								
F4G-SG (GHH-Silica)			66.6		%		60-140	10-MAY-21
WG3532090-1 MB								
F4G-SG (GHH-Silica)			<250		ug/g		250	10-MAY-21
HG-200.2-CVAA-WT	Soil							
Batch R5455045								
WG3531569-2 CRM		WT-SS-2						
Mercury (Hg)			115.0		%		70-130	10-MAY-21
WG3531569-6 DUP		WG3531569-5						
Mercury (Hg)		0.0095	0.0115		ug/g	20	40	10-MAY-21
WG3531569-3 LCS								
Mercury (Hg)			114.5		%		80-120	10-MAY-21
WG3531569-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	10-MAY-21
MET-200.2-CCMS-WT	Soil							
Batch R5455519								
WG3531569-2 CRM		WT-SS-2						
Antimony (Sb)			108.0		%		70-130	10-MAY-21
Arsenic (As)			108.4		%		70-130	10-MAY-21
Barium (Ba)			112.0		%		70-130	10-MAY-21
Beryllium (Be)			105.8		%		70-130	10-MAY-21
Boron (B)			9.8		mg/kg		3.5-13.5	10-MAY-21
Cadmium (Cd)			113.3		%		70-130	10-MAY-21
Chromium (Cr)			116.3		%		70-130	10-MAY-21
Cobalt (Co)			111.6		%		70-130	10-MAY-21
Copper (Cu)			113.0		%		70-130	10-MAY-21
Lead (Pb)			109.9		%		70-130	10-MAY-21
Molybdenum (Mo)			107.1		%		70-130	10-MAY-21
Nickel (Ni)			112.4		%		70-130	10-MAY-21
Selenium (Se)			0.15		mg/kg		0-0.34	10-MAY-21
Silver (Ag)			117.7		%		70-130	10-MAY-21
Thallium (Tl)			0.084		mg/kg		0.029-0.129	10-MAY-21
Uranium (U)			103.5		%		70-130	10-MAY-21
Vanadium (V)			114.7		%		70-130	10-MAY-21
Zinc (Zn)			108.6		%		70-130	10-MAY-21
WG3531569-6 DUP		WG3531569-5						



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 4 of 14

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT		Soil						
Batch	R5455519							
WG3531569-6	DUP	WG3531569-5						
Antimony (Sb)		<0.10	<0.10	RPD-NA	ug/g	N/A	30	10-MAY-21
Arsenic (As)		2.48	2.56		ug/g	3.2	30	10-MAY-21
Barium (Ba)		61.6	66.7		ug/g	7.9	40	10-MAY-21
Beryllium (Be)		0.42	0.44		ug/g	6.2	30	10-MAY-21
Boron (B)		6.6	7.6		ug/g	14	30	10-MAY-21
Cadmium (Cd)		0.084	0.080		ug/g	4.8	30	10-MAY-21
Chromium (Cr)		19.5	20.3		ug/g	4.3	30	10-MAY-21
Cobalt (Co)		7.62	8.11		ug/g	6.3	30	10-MAY-21
Copper (Cu)		15.0	16.2		ug/g	7.2	30	10-MAY-21
Lead (Pb)		6.37	6.84		ug/g	7.2	40	10-MAY-21
Molybdenum (Mo)		0.39	0.40		ug/g	2.6	40	10-MAY-21
Nickel (Ni)		15.9	17.0		ug/g	6.7	30	10-MAY-21
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	10-MAY-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	10-MAY-21
Thallium (Tl)		0.131	0.139		ug/g	5.8	30	10-MAY-21
Uranium (U)		0.484	0.497		ug/g	2.5	30	10-MAY-21
Vanadium (V)		32.7	34.1		ug/g	4.4	30	10-MAY-21
Zinc (Zn)		40.6	42.6		ug/g	4.9	30	10-MAY-21
WG3531569-4	LCS							
Antimony (Sb)			103.8		%		80-120	10-MAY-21
Arsenic (As)			101.1		%		80-120	10-MAY-21
Barium (Ba)			96.9		%		80-120	10-MAY-21
Beryllium (Be)			94.3		%		80-120	10-MAY-21
Boron (B)			91.6		%		80-120	10-MAY-21
Cadmium (Cd)			99.7		%		80-120	10-MAY-21
Chromium (Cr)			101.1		%		80-120	10-MAY-21
Cobalt (Co)			98.6		%		80-120	10-MAY-21
Copper (Cu)			98.1		%		80-120	10-MAY-21
Lead (Pb)			102.5		%		80-120	10-MAY-21
Molybdenum (Mo)			100.6		%		80-120	10-MAY-21
Nickel (Ni)			97.7		%		80-120	10-MAY-21
Selenium (Se)			102.9		%		80-120	10-MAY-21
Silver (Ag)			102.1		%		80-120	10-MAY-21



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 5 of 14

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT								
	Soil							
Batch	R545519							
WG3531569-4	LCS							
Thallium (Tl)			102.8		%		80-120	10-MAY-21
Uranium (U)			100.1		%		80-120	10-MAY-21
Vanadium (V)			102.2		%		80-120	10-MAY-21
Zinc (Zn)			96.7		%		80-120	10-MAY-21
WG3531569-1	MB							
Antimony (Sb)			<0.10		mg/kg		0.1	10-MAY-21
Arsenic (As)			<0.10		mg/kg		0.1	10-MAY-21
Barium (Ba)			<0.50		mg/kg		0.5	10-MAY-21
Beryllium (Be)			<0.10		mg/kg		0.1	10-MAY-21
Boron (B)			<5.0		mg/kg		5	10-MAY-21
Cadmium (Cd)			<0.020		mg/kg		0.02	10-MAY-21
Chromium (Cr)			<0.50		mg/kg		0.5	10-MAY-21
Cobalt (Co)			<0.10		mg/kg		0.1	10-MAY-21
Copper (Cu)			<0.50		mg/kg		0.5	10-MAY-21
Lead (Pb)			<0.50		mg/kg		0.5	10-MAY-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	10-MAY-21
Nickel (Ni)			<0.50		mg/kg		0.5	10-MAY-21
Selenium (Se)			<0.20		mg/kg		0.2	10-MAY-21
Silver (Ag)			<0.10		mg/kg		0.1	10-MAY-21
Thallium (Tl)			<0.050		mg/kg		0.05	10-MAY-21
Uranium (U)			<0.050		mg/kg		0.05	10-MAY-21
Vanadium (V)			<0.20		mg/kg		0.2	10-MAY-21
Zinc (Zn)			<2.0		mg/kg		2	10-MAY-21
MOISTURE-WT								
	Soil							
Batch	R5454125							
WG3530538-3	DUP	L2582616-13						
% Moisture		10.1	9.68		%	3.8	20	07-MAY-21
WG3530538-2	LCS							
% Moisture			99.7		%		90-110	07-MAY-21
WG3530538-1	MB							
% Moisture			<0.25		%		0.25	07-MAY-21
PAH-511-WT								
	Soil							



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 6 of 14

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT								
	Soil							
Batch	R5458483							
WG3534576-3	DUP	WG3534576-5						
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	17-MAY-21
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	17-MAY-21
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Benzo(b&j)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Chrysene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Dibenz(a,h)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	17-MAY-21
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	17-MAY-21
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	17-MAY-21
WG3534576-2	LCS							
1-Methylnaphthalene			91.9		%		50-140	17-MAY-21
2-Methylnaphthalene			89.2		%		50-140	17-MAY-21
Acenaphthene			87.6		%		50-140	17-MAY-21
Acenaphthylene			84.6		%		50-140	17-MAY-21
Anthracene			77.4		%		50-140	17-MAY-21
Benzo(a)anthracene			89.3		%		50-140	17-MAY-21
Benzo(a)pyrene			76.3		%		50-140	17-MAY-21
Benzo(b&j)fluoranthene			73.2		%		50-140	17-MAY-21
Benzo(g,h,i)perylene			86.9		%		50-140	17-MAY-21
Benzo(k)fluoranthene			105.8		%		50-140	17-MAY-21
Chrysene			85.5		%		50-140	17-MAY-21
Dibenz(a,h)anthracene			85.5		%		50-140	17-MAY-21
Fluoranthene			83.8		%		50-140	17-MAY-21
Fluorene			85.2		%		50-140	17-MAY-21



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 7 of 14

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	Soil							
Batch	R5458483							
WG3534576-2 LCS								
Indeno(1,2,3-cd)pyrene			94.4		%		50-140	17-MAY-21
Naphthalene			87.3		%		50-140	17-MAY-21
Phenanthrene			88.2		%		50-140	17-MAY-21
Pyrene			82.5		%		50-140	17-MAY-21
WG3534576-1 MB								
1-Methylnaphthalene			<0.030		ug/g		0.03	17-MAY-21
2-Methylnaphthalene			<0.030		ug/g		0.03	17-MAY-21
Acenaphthene			<0.050		ug/g		0.05	17-MAY-21
Acenaphthylene			<0.050		ug/g		0.05	17-MAY-21
Anthracene			<0.050		ug/g		0.05	17-MAY-21
Benzo(a)anthracene			<0.050		ug/g		0.05	17-MAY-21
Benzo(a)pyrene			<0.050		ug/g		0.05	17-MAY-21
Benzo(b&j)fluoranthene			<0.050		ug/g		0.05	17-MAY-21
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	17-MAY-21
Benzo(k)fluoranthene			<0.050		ug/g		0.05	17-MAY-21
Chrysene			<0.050		ug/g		0.05	17-MAY-21
Dibenz(a,h)anthracene			<0.050		ug/g		0.05	17-MAY-21
Fluoranthene			<0.050		ug/g		0.05	17-MAY-21
Fluorene			<0.050		ug/g		0.05	17-MAY-21
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	17-MAY-21
Naphthalene			<0.013		ug/g		0.013	17-MAY-21
Phenanthrene			<0.046		ug/g		0.046	17-MAY-21
Pyrene			<0.050		ug/g		0.05	17-MAY-21
Surrogate: 2-Fluorobiphenyl			88.7		%		50-140	17-MAY-21
Surrogate: d14-Terphenyl			91.4		%		50-140	17-MAY-21
WG3534576-4 MS		WG3534576-5						
1-Methylnaphthalene			90.3		%		50-140	17-MAY-21
2-Methylnaphthalene			87.4		%		50-140	17-MAY-21
Acenaphthene			87.6		%		50-140	17-MAY-21
Acenaphthylene			83.9		%		50-140	17-MAY-21
Anthracene			78.1		%		50-140	17-MAY-21
Benzo(a)anthracene			92.8		%		50-140	17-MAY-21
Benzo(a)pyrene			78.6		%		50-140	17-MAY-21
Benzo(b&j)fluoranthene			71.7		%		50-140	17-MAY-21



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 8 of 14

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT								
	Soil							
Batch	R5458483							
WG3534576-4 MS		WG3534576-5						
Benzo(g,h,i)perylene			88.1		%		50-140	17-MAY-21
Benzo(k)fluoranthene			111.2		%		50-140	17-MAY-21
Chrysene			84.2		%		50-140	17-MAY-21
Dibenz(a,h)anthracene			87.9		%		50-140	17-MAY-21
Fluoranthene			84.5		%		50-140	17-MAY-21
Fluorene			86.8		%		50-140	17-MAY-21
Indeno(1,2,3-cd)pyrene			95.9		%		50-140	17-MAY-21
Naphthalene			84.2		%		50-140	17-MAY-21
Phenanthrene			86.4		%		50-140	17-MAY-21
Pyrene			83.1		%		50-140	17-MAY-21
PH-WT								
	Soil							
Batch	R5454316							
WG3530415-1 DUP		L2582585-1						
pH		7.53	7.30	J	pH units	0.23	0.3	07-MAY-21
WG3530792-1 LCS								
pH			6.98		pH units		6.9-7.1	07-MAY-21
SAR-R511-WT								
	Soil							
Batch	R5455280							
WG3531583-4 DUP		WG3531583-3						
Calcium (Ca)		114	109		mg/L	4.5	30	10-MAY-21
Sodium (Na)		15.0	14.6		mg/L	2.7	30	10-MAY-21
Magnesium (Mg)		13.6	13.0		mg/L	4.5	30	10-MAY-21
WG3531583-2 IRM		WT SAR4						
Calcium (Ca)			90.6		%		70-130	10-MAY-21
Sodium (Na)			99.1		%		70-130	10-MAY-21
Magnesium (Mg)			96.6		%		70-130	10-MAY-21
WG3531583-5 LCS								
Calcium (Ca)			105.7		%		80-120	10-MAY-21
Sodium (Na)			100.0		%		80-120	10-MAY-21
Magnesium (Mg)			100.8		%		80-120	10-MAY-21
WG3531583-1 MB								
Calcium (Ca)			<0.50		mg/L		0.5	10-MAY-21
Sodium (Na)			<0.50		mg/L		0.5	10-MAY-21
Magnesium (Mg)			<0.50		mg/L		0.5	10-MAY-21



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 9 of 14

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Soil						
Batch	R5456432							
WG3528806-4	DUP	WG3528806-3						
1,1,1,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,1,2,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	12-MAY-21
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	12-MAY-21
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
cis-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	12-MAY-21
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Dichlorodifluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	12-MAY-21
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	12-MAY-21
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	12-MAY-21
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	12-MAY-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	12-MAY-21
Styrene		<0.050	<0.050		ug/g			12-MAY-21



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 10 of 14

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Soil						
Batch	R5456432							
WG3528806-4	DUP	WG3528806-3						
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	12-MAY-21
trans-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
trans-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	12-MAY-21
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	12-MAY-21
Trichlorofluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-MAY-21
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	12-MAY-21
WG3528806-2	LCS							
1,1,1,2-Tetrachloroethane			108.2		%		60-130	12-MAY-21
1,1,2,2-Tetrachloroethane			115.9		%		60-130	12-MAY-21
1,1,1-Trichloroethane			104.6		%		60-130	12-MAY-21
1,1,2-Trichloroethane			107.3		%		60-130	12-MAY-21
1,1-Dichloroethane			62.1		%		60-130	12-MAY-21
1,1-Dichloroethylene			102.8		%		60-130	12-MAY-21
1,2-Dibromoethane			105.0		%		70-130	12-MAY-21
1,2-Dichlorobenzene			108.8		%		70-130	12-MAY-21
1,2-Dichloroethane			110.6		%		60-130	12-MAY-21
1,2-Dichloropropane			106.1		%		70-130	12-MAY-21
1,3-Dichlorobenzene			107.7		%		70-130	12-MAY-21
1,4-Dichlorobenzene			106.9		%		70-130	12-MAY-21
Acetone			146.1	LCS-ND	%		60-140	12-MAY-21
Benzene			102.3		%		70-130	12-MAY-21
Bromodichloromethane			110.2		%		50-140	12-MAY-21
Bromoform			116.4		%		70-130	12-MAY-21
Bromomethane			95.0		%		50-140	12-MAY-21
Carbon tetrachloride			106.5		%		70-130	12-MAY-21
Chlorobenzene			110.4		%		70-130	12-MAY-21
Chloroform			108.8		%		70-130	12-MAY-21
cis-1,2-Dichloroethylene			107.4		%		70-130	12-MAY-21
cis-1,3-Dichloropropene			96.5		%		70-130	12-MAY-21
Dibromochloromethane			104.2		%		60-130	12-MAY-21
Dichlorodifluoromethane			72.3		%		50-140	12-MAY-21



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 11 of 14

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Soil						
Batch	R5456432							
WG3528806-2	LCS							
Ethylbenzene			101.6		%		70-130	12-MAY-21
n-Hexane			95.2		%		70-130	12-MAY-21
Methylene Chloride			109.0		%		70-130	12-MAY-21
MTBE			102.4		%		70-130	12-MAY-21
m+p-Xylenes			109.1		%		70-130	12-MAY-21
Methyl Ethyl Ketone			138.6		%		60-140	12-MAY-21
Methyl Isobutyl Ketone			112.4		%		60-140	12-MAY-21
o-Xylene			111.4		%		70-130	12-MAY-21
Styrene			108.3		%		70-130	12-MAY-21
Tetrachloroethylene			97.8		%		60-130	12-MAY-21
Toluene			103.3		%		70-130	12-MAY-21
trans-1,2-Dichloroethylene			106.0		%		60-130	12-MAY-21
trans-1,3-Dichloropropene			103.5		%		70-130	12-MAY-21
Trichloroethylene			105.9		%		60-130	12-MAY-21
Trichlorofluoromethane			101.7		%		50-140	12-MAY-21
Vinyl chloride			95.0		%		60-140	12-MAY-21
WG3528806-1	MB							
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	12-MAY-21
1,1,2,2-Tetrachloroethane			<0.050		ug/g		0.05	12-MAY-21
1,1,1-Trichloroethane			<0.050		ug/g		0.05	12-MAY-21
1,1,2-Trichloroethane			<0.050		ug/g		0.05	12-MAY-21
1,1-Dichloroethane			<0.050		ug/g		0.05	12-MAY-21
1,1-Dichloroethylene			<0.050		ug/g		0.05	12-MAY-21
1,2-Dibromoethane			<0.050		ug/g		0.05	12-MAY-21
1,2-Dichlorobenzene			<0.050		ug/g		0.05	12-MAY-21
1,2-Dichloroethane			<0.050		ug/g		0.05	12-MAY-21
1,2-Dichloropropane			<0.050		ug/g		0.05	12-MAY-21
1,3-Dichlorobenzene			<0.050		ug/g		0.05	12-MAY-21
1,4-Dichlorobenzene			<0.050		ug/g		0.05	12-MAY-21
Acetone			<0.50		ug/g		0.5	12-MAY-21
Benzene			<0.0068		ug/g		0.0068	12-MAY-21
Bromodichloromethane			<0.050		ug/g		0.05	12-MAY-21
Bromoform			<0.050		ug/g		0.05	12-MAY-21
Bromomethane			<0.050		ug/g		0.05	12-MAY-21



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 12 of 14

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Soil							
Batch	R5456432							
WG3528806-1 MB								
Carbon tetrachloride			<0.050		ug/g		0.05	12-MAY-21
Chlorobenzene			<0.050		ug/g		0.05	12-MAY-21
Chloroform			<0.050		ug/g		0.05	12-MAY-21
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	12-MAY-21
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	12-MAY-21
Dibromochloromethane			<0.050		ug/g		0.05	12-MAY-21
Dichlorodifluoromethane			<0.050		ug/g		0.05	12-MAY-21
Ethylbenzene			<0.018		ug/g		0.018	12-MAY-21
n-Hexane			<0.050		ug/g		0.05	12-MAY-21
Methylene Chloride			<0.050		ug/g		0.05	12-MAY-21
MTBE			<0.050		ug/g		0.05	12-MAY-21
m+p-Xylenes			<0.030		ug/g		0.03	12-MAY-21
Methyl Ethyl Ketone			<0.50		ug/g		0.5	12-MAY-21
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	12-MAY-21
o-Xylene			<0.020		ug/g		0.02	12-MAY-21
Styrene			<0.050		ug/g		0.05	12-MAY-21
Tetrachloroethylene			<0.050		ug/g		0.05	12-MAY-21
Toluene			<0.080		ug/g		0.08	12-MAY-21
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	12-MAY-21
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	12-MAY-21
Trichloroethylene			<0.010		ug/g		0.01	12-MAY-21
Trichlorofluoromethane			<0.050		ug/g		0.05	12-MAY-21
Vinyl chloride			<0.020		ug/g		0.02	12-MAY-21
Surrogate: 1,4-Difluorobenzene			121.9		%		50-140	12-MAY-21
Surrogate: 4-Bromofluorobenzene			101.1		%		50-140	12-MAY-21
WG3528806-5 MS		WG3528806-3						
1,1,1,2-Tetrachloroethane			116.5		%		50-140	12-MAY-21
1,1,1,2,2-Tetrachloroethane			129.0		%		50-140	12-MAY-21
1,1,1-Trichloroethane			113.1		%		50-140	12-MAY-21
1,1,2-Trichloroethane			121.1		%		50-140	12-MAY-21
1,1-Dichloroethane			113.0		%		50-140	12-MAY-21
1,1-Dichloroethylene			115.5		%		50-140	12-MAY-21
1,2-Dibromoethane			120.9		%		50-140	12-MAY-21
1,2-Dichlorobenzene			116.9		%		50-140	12-MAY-21



Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Page 13 of 14

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Soil							
Batch	R5456432							
WG3528806-5 MS		WG3528806-3						
1,2-Dichloroethane			129.4		%		50-140	12-MAY-21
1,2-Dichloropropane			117.6		%		50-140	12-MAY-21
1,3-Dichlorobenzene			112.8		%		50-140	12-MAY-21
1,4-Dichlorobenzene			112.1		%		50-140	12-MAY-21
Acetone			167.5	RRQC	%		50-140	12-MAY-21
Benzene			112.5		%		50-140	12-MAY-21
Bromodichloromethane			123.4		%		50-140	12-MAY-21
Bromoform			130.9		%		50-140	12-MAY-21
Bromomethane			115.0		%		50-140	12-MAY-21
Carbon tetrachloride			115.5		%		50-140	12-MAY-21
Chlorobenzene			118.5		%		50-140	12-MAY-21
Chloroform			120.2		%		50-140	12-MAY-21
cis-1,2-Dichloroethylene			118.5		%		50-140	12-MAY-21
cis-1,3-Dichloropropene			113.0		%		50-140	12-MAY-21
Dibromochloromethane			116.2		%		50-140	12-MAY-21
Dichlorodifluoromethane			108.5		%		50-140	12-MAY-21
Ethylbenzene			107.4		%		50-140	12-MAY-21
n-Hexane			110.3		%		50-140	12-MAY-21
Methylene Chloride			125.5		%		50-140	12-MAY-21
MTBE			112.5		%		50-140	12-MAY-21
m+p-Xylenes			114.2		%		50-140	12-MAY-21
Methyl Ethyl Ketone			148.7	MES	%		50-140	12-MAY-21
Methyl Isobutyl Ketone			122.3		%		50-140	12-MAY-21
o-Xylene			118.8		%		50-140	12-MAY-21
Styrene			116.9		%		50-140	12-MAY-21
Tetrachloroethylene			102.1		%		50-140	12-MAY-21
Toluene			111.3		%		50-140	12-MAY-21
trans-1,2-Dichloroethylene			115.3		%		50-140	12-MAY-21
trans-1,3-Dichloropropene			116.2		%		50-140	12-MAY-21
Trichloroethylene			112.5		%		50-140	12-MAY-21
Trichlorofluoromethane			115.7		%		50-140	12-MAY-21
Vinyl chloride			114.4		%		50-140	12-MAY-21

COMMENTS: RRQC - Acetone recovery in the matrix spike exceeds ALS DQO. Non-detected samples are considered reliable.

Quality Control Report

Workorder: L2582555

Report Date: 17-MAY-21

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Page 14 of 14

Contact: KEITH CLARKE

Legend:

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

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
LCS-ND	Lab Control Sample recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.
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.
RRQC	Refer to report remarks for information regarding this QC result.

Hold Time Exceedances:

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

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

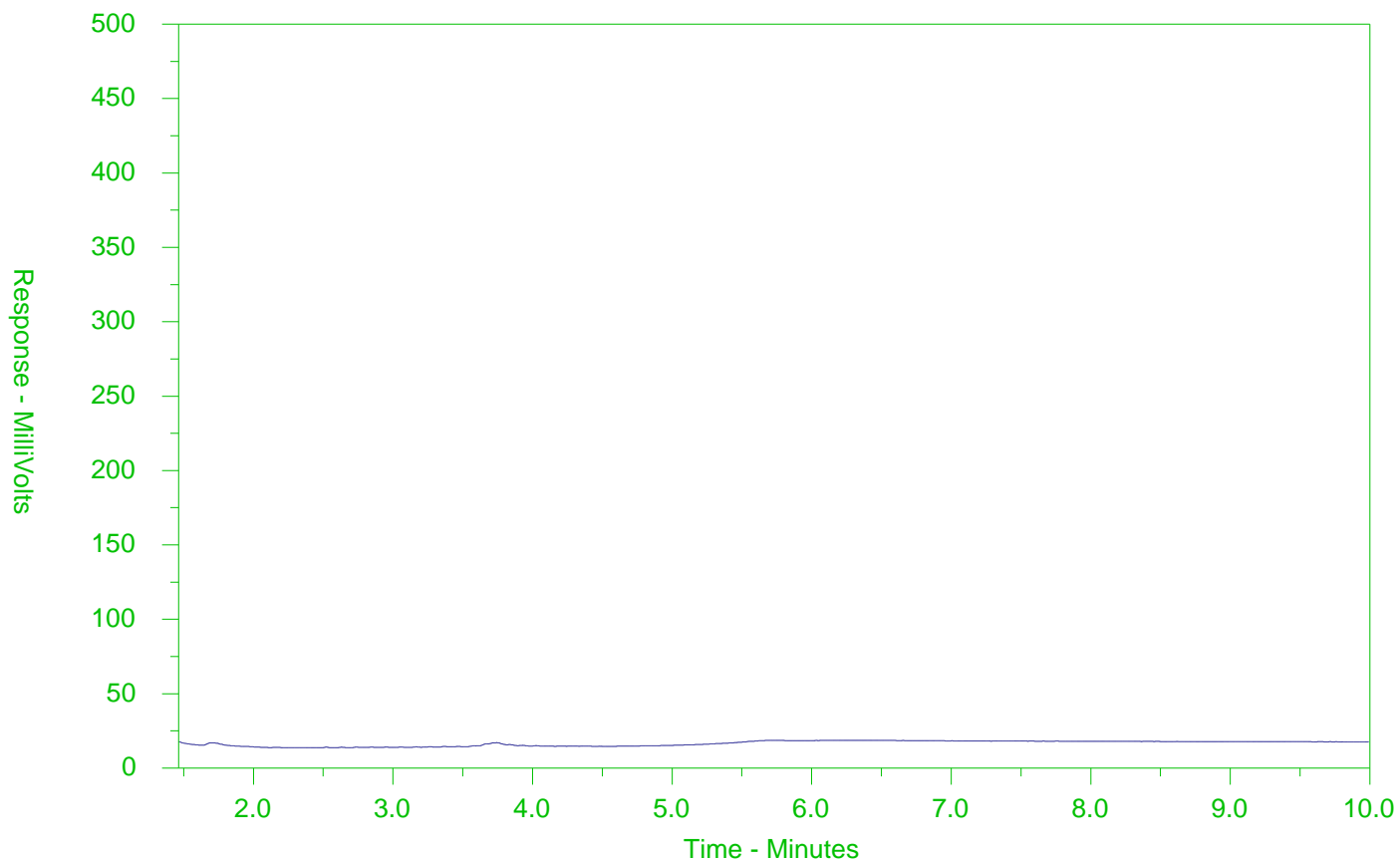
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2582555-2
 Client Sample ID: MW21-11 SS7



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

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

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

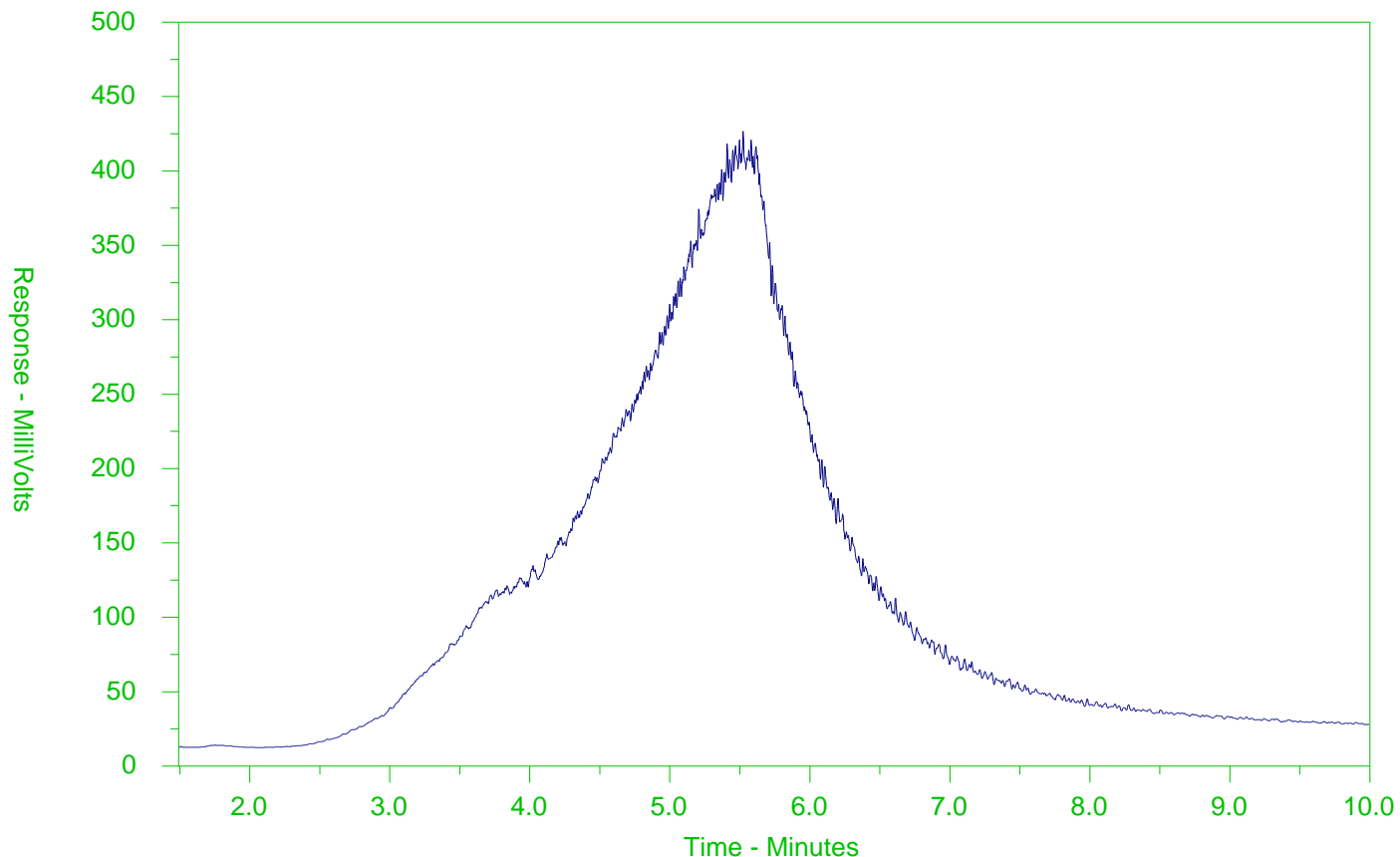
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2582555-3
 Client Sample ID: BH21-12 SS1



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

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

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

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

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



GROUNDWATER



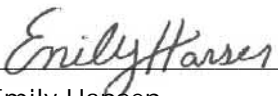
DS Consultants (Vaughan)
ATTN: KEITH CLARK
6221 Highway 7
Unit 16
Vaughan ON L4H 0K8

Date Received: 21-APR-21
Report Date: 28-APR-21 12:31 (MT)
Version: FINAL

Client Phone: 905-264-9393

Certificate of Analysis

Lab Work Order #: L2579308
Project P.O. #: NOT SUBMITTED
Job Reference: 21-129-300
C of C Numbers: 20-894372
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
L2579308-1 MW21-1							
Sampled By: CLIENT on 21-APR-21							
Matrix: WATER							
Physical Tests							
Conductivity	0.902		0.0030	mS/cm		24-APR-21	R5441399
pH	7.29		0.10	pH units		24-APR-21	R5441399
Anions and Nutrients							
Chloride (Cl)	9.42		0.50	mg/L		26-APR-21	R5441939
Cyanides							
Cyanide, Weak Acid Diss	<2.0		2.0	ug/L		23-APR-21	R5440560
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					23-APR-21	R5440102
Dissolved Metals Filtration Location	FIELD					23-APR-21	R5439480
Antimony (Sb)-Dissolved	0.10		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Arsenic (As)-Dissolved	0.48		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Barium (Ba)-Dissolved	65.7		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Beryllium (Be)-Dissolved	<0.10		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Boron (B)-Dissolved	55		10	ug/L	23-APR-21	26-APR-21	R5440992
Cadmium (Cd)-Dissolved	0.013		0.010	ug/L	23-APR-21	26-APR-21	R5440992
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	23-APR-21	26-APR-21	R5440992
Cobalt (Co)-Dissolved	0.22		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Copper (Cu)-Dissolved	1.30		0.20	ug/L	23-APR-21	26-APR-21	R5440992
Lead (Pb)-Dissolved	0.089		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Mercury (Hg)-Dissolved	<0.0050		0.0050	ug/L	23-APR-21	26-APR-21	R5441237
Molybdenum (Mo)-Dissolved	1.47		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Nickel (Ni)-Dissolved	1.21		0.50	ug/L	23-APR-21	26-APR-21	R5440992
Selenium (Se)-Dissolved	0.514		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Silver (Ag)-Dissolved	<0.050		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Sodium (Na)-Dissolved	22500		500	ug/L	23-APR-21	26-APR-21	R5440992
Thallium (Tl)-Dissolved	0.022		0.010	ug/L	23-APR-21	26-APR-21	R5440992
Uranium (U)-Dissolved	0.966		0.010	ug/L	23-APR-21	26-APR-21	R5440992
Vanadium (V)-Dissolved	0.84		0.50	ug/L	23-APR-21	26-APR-21	R5440992
Zinc (Zn)-Dissolved	3.5		1.0	ug/L	23-APR-21	26-APR-21	R5440992
Speciated Metals							
Chromium, Hexavalent	<0.50		0.50	ug/L		23-APR-21	R5441277
Volatile Organic Compounds							
Acetone	<30		30	ug/L		26-APR-21	R5441102
Benzene	<0.50		0.50	ug/L		26-APR-21	R5441102
Bromodichloromethane	<2.0		2.0	ug/L		26-APR-21	R5441102
Bromoform	<5.0		5.0	ug/L		26-APR-21	R5441102
Bromomethane	<0.50		0.50	ug/L		26-APR-21	R5441102
Carbon tetrachloride	<0.20		0.20	ug/L		26-APR-21	R5441102
Chlorobenzene	<0.50		0.50	ug/L		26-APR-21	R5441102
Dibromochloromethane	<2.0		2.0	ug/L		26-APR-21	R5441102
Chloroform	<1.0		1.0	ug/L		26-APR-21	R5441102
1,2-Dibromoethane	<0.20		0.20	ug/L		26-APR-21	R5441102

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2579308-1 MW21-1							
Sampled By: CLIENT on 21-APR-21							
Matrix: WATER							
Volatile Organic Compounds							
1,2-Dichlorobenzene	<0.50		0.50	ug/L		26-APR-21	R5441102
1,3-Dichlorobenzene	<0.50		0.50	ug/L		26-APR-21	R5441102
1,4-Dichlorobenzene	<0.50		0.50	ug/L		26-APR-21	R5441102
Dichlorodifluoromethane	<2.0		2.0	ug/L		26-APR-21	R5441102
1,1-Dichloroethane	<0.50		0.50	ug/L		26-APR-21	R5441102
1,2-Dichloroethane	<0.50		0.50	ug/L		26-APR-21	R5441102
1,1-Dichloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441102
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441102
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441102
Methylene Chloride	<5.0		5.0	ug/L		26-APR-21	R5441102
1,2-Dichloropropane	<0.50		0.50	ug/L		26-APR-21	R5441102
cis-1,3-Dichloropropene	<0.30		0.30	ug/L		26-APR-21	R5441102
trans-1,3-Dichloropropene	<0.30		0.30	ug/L		26-APR-21	R5441102
1,3-Dichloropropene (cis & trans)	<0.50		0.50	ug/L		26-APR-21	
Ethylbenzene	<0.50		0.50	ug/L		26-APR-21	R5441102
n-Hexane	<0.50		0.50	ug/L		26-APR-21	R5441102
Methyl Ethyl Ketone	<20		20	ug/L		26-APR-21	R5441102
Methyl Isobutyl Ketone	<20		20	ug/L		26-APR-21	R5441102
MTBE	<2.0		2.0	ug/L		26-APR-21	R5441102
Styrene	<0.50		0.50	ug/L		26-APR-21	R5441102
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L		26-APR-21	R5441102
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L		26-APR-21	R5441102
Tetrachloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441102
Toluene	<0.50		0.50	ug/L		26-APR-21	R5441102
1,1,1-Trichloroethane	<0.50		0.50	ug/L		26-APR-21	R5441102
1,1,2-Trichloroethane	<0.50		0.50	ug/L		26-APR-21	R5441102
Trichloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441102
Trichlorofluoromethane	<5.0		5.0	ug/L		26-APR-21	R5441102
Vinyl chloride	<0.50		0.50	ug/L		26-APR-21	R5441102
o-Xylene	<0.30		0.30	ug/L		26-APR-21	R5441102
m+p-Xylenes	<0.40		0.40	ug/L		26-APR-21	R5441102
Xylenes (Total)	<0.50		0.50	ug/L		26-APR-21	
Surrogate: 4-Bromofluorobenzene	92.6		70-130	%		26-APR-21	R5441102
Surrogate: 1,4-Difluorobenzene	100.8		70-130	%		26-APR-21	R5441102
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		26-APR-21	R5441102
F1-BTEX	<25		25	ug/L		28-APR-21	
F2 (C10-C16)	<100		100	ug/L	23-APR-21	26-APR-21	R5441107
F2-Naphth	<100		100	ug/L		28-APR-21	
F3 (C16-C34)	<250		250	ug/L	23-APR-21	26-APR-21	R5441107
F3-PAH	<250		250	ug/L		28-APR-21	

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2579308-1 MW21-1 Sampled By: CLIENT on 21-APR-21 Matrix: WATER							
Hydrocarbons							
F4 (C34-C50)	<250		250	ug/L	23-APR-21	26-APR-21	R5441107
Total Hydrocarbons (C6-C50)	<370		370	ug/L		28-APR-21	
Chrom. to baseline at nC50	YES				23-APR-21	26-APR-21	R5441107
Surrogate: 2-Bromobenzotrifluoride	86.0		60-140	%	23-APR-21	26-APR-21	R5441107
Surrogate: 3,4-Dichlorotoluene	100.6		60-140	%		26-APR-21	R5441102
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Acenaphthylene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Anthracene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(a)anthracene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(a)pyrene	<0.010		0.010	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(b&j)fluoranthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(g,h,i)perylene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(k)fluoranthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Chrysene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Dibenz(a,h)anthracene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Fluoranthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Fluorene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Indeno(1,2,3-cd)pyrene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
1+2-Methylnaphthalenes	<0.028		0.028	ug/L		28-APR-21	
1-Methylnaphthalene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
2-Methylnaphthalene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Naphthalene	<0.050		0.050	ug/L	23-APR-21	28-APR-21	R5441303
Phenanthrene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Pyrene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Surrogate: Chrysene d12	99.9		50-150	%	23-APR-21	28-APR-21	R5441303
Surrogate: Naphthalene d8	94.5		60-140	%	23-APR-21	28-APR-21	R5441303
Surrogate: Phenanthrene d10	98.4		60-140	%	23-APR-21	28-APR-21	R5441303
L2579308-2 MW20-24 Sampled By: CLIENT on 21-APR-21 Matrix: WATER							
Physical Tests							
Conductivity	0.915		0.0030	mS/cm		24-APR-21	R5441399
pH	7.39		0.10	pH units		24-APR-21	R5441399
Anions and Nutrients							
Chloride (Cl)	9.49		0.50	mg/L		26-APR-21	R5441939
Cyanides							
Cyanide, Weak Acid Diss	<2.0		2.0	ug/L		23-APR-21	R5440560
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					23-APR-21	R5440102
Dissolved Metals Filtration Location	FIELD					23-APR-21	R5439480
Antimony (Sb)-Dissolved	0.10		0.10	ug/L	23-APR-21	26-APR-21	R5440992

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2579308-2 MW20-24							
Sampled By: CLIENT on 21-APR-21							
Matrix: WATER							
Dissolved Metals							
Arsenic (As)-Dissolved	0.45		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Barium (Ba)-Dissolved	65.9		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Beryllium (Be)-Dissolved	<0.10		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Boron (B)-Dissolved	54		10	ug/L	23-APR-21	26-APR-21	R5440992
Cadmium (Cd)-Dissolved	0.015		0.010	ug/L	23-APR-21	26-APR-21	R5440992
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	23-APR-21	26-APR-21	R5440992
Cobalt (Co)-Dissolved	0.21		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Copper (Cu)-Dissolved	1.23		0.20	ug/L	23-APR-21	26-APR-21	R5440992
Lead (Pb)-Dissolved	0.090		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Mercury (Hg)-Dissolved	<0.0050		0.0050	ug/L	23-APR-21	26-APR-21	R5441237
Molybdenum (Mo)-Dissolved	1.46		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Nickel (Ni)-Dissolved	1.15		0.50	ug/L	23-APR-21	26-APR-21	R5440992
Selenium (Se)-Dissolved	0.518		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Silver (Ag)-Dissolved	<0.050		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Sodium (Na)-Dissolved	22000		500	ug/L	23-APR-21	26-APR-21	R5440992
Thallium (Tl)-Dissolved	0.021		0.010	ug/L	23-APR-21	26-APR-21	R5440992
Uranium (U)-Dissolved	0.977		0.010	ug/L	23-APR-21	26-APR-21	R5440992
Vanadium (V)-Dissolved	0.84		0.50	ug/L	23-APR-21	26-APR-21	R5440992
Zinc (Zn)-Dissolved	3.4		1.0	ug/L	23-APR-21	26-APR-21	R5440992
Speciated Metals							
Chromium, Hexavalent	<0.50		0.50	ug/L		23-APR-21	R5441277
Volatile Organic Compounds							
Acetone	<30		30	ug/L		26-APR-21	R5441142
Benzene	<0.50		0.50	ug/L		26-APR-21	R5441142
Bromodichloromethane	<2.0		2.0	ug/L		26-APR-21	R5441142
Bromoform	<5.0		5.0	ug/L		26-APR-21	R5441142
Bromomethane	<0.50		0.50	ug/L		26-APR-21	R5441142
Carbon tetrachloride	<0.20		0.20	ug/L		26-APR-21	R5441142
Chlorobenzene	<0.50		0.50	ug/L		26-APR-21	R5441142
Dibromochloromethane	<2.0		2.0	ug/L		26-APR-21	R5441142
Chloroform	<1.0		1.0	ug/L		26-APR-21	R5441142
1,2-Dibromoethane	<0.20		0.20	ug/L		26-APR-21	R5441142
1,2-Dichlorobenzene	<0.50		0.50	ug/L		26-APR-21	R5441142
1,3-Dichlorobenzene	<0.50		0.50	ug/L		26-APR-21	R5441142
1,4-Dichlorobenzene	<0.50		0.50	ug/L		26-APR-21	R5441142
Dichlorodifluoromethane	<2.0		2.0	ug/L		26-APR-21	R5441142
1,1-Dichloroethane	<0.50		0.50	ug/L		26-APR-21	R5441142
1,2-Dichloroethane	<0.50		0.50	ug/L		26-APR-21	R5441142
1,1-Dichloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441142
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441142
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441142

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2579308-2 MW20-24							
Sampled By: CLIENT on 21-APR-21							
Matrix: WATER							
Volatile Organic Compounds							
Methylene Chloride	<5.0		5.0	ug/L		26-APR-21	R5441142
1,2-Dichloropropane	<0.50		0.50	ug/L		26-APR-21	R5441142
cis-1,3-Dichloropropene	<0.30		0.30	ug/L		26-APR-21	R5441142
trans-1,3-Dichloropropene	<0.30		0.30	ug/L		26-APR-21	R5441142
1,3-Dichloropropene (cis & trans)	<0.50		0.50	ug/L		26-APR-21	
Ethylbenzene	<0.50		0.50	ug/L		26-APR-21	R5441142
n-Hexane	<0.50		0.50	ug/L		26-APR-21	R5441142
Methyl Ethyl Ketone	<20		20	ug/L		26-APR-21	R5441142
Methyl Isobutyl Ketone	<20		20	ug/L		26-APR-21	R5441142
MTBE	<2.0		2.0	ug/L		26-APR-21	R5441142
Styrene	<0.50		0.50	ug/L		26-APR-21	R5441142
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L		26-APR-21	R5441142
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L		26-APR-21	R5441142
Tetrachloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441142
Toluene	<0.50		0.50	ug/L		26-APR-21	R5441142
1,1,1-Trichloroethane	<0.50		0.50	ug/L		26-APR-21	R5441142
1,1,2-Trichloroethane	<0.50		0.50	ug/L		26-APR-21	R5441142
Trichloroethylene	<0.50		0.50	ug/L		26-APR-21	R5441142
Trichlorofluoromethane	<5.0		5.0	ug/L		26-APR-21	R5441142
Vinyl chloride	<0.50		0.50	ug/L		26-APR-21	R5441142
o-Xylene	<0.30		0.30	ug/L		26-APR-21	R5441142
m+p-Xylenes	<0.40		0.40	ug/L		26-APR-21	R5441142
Xylenes (Total)	<0.50		0.50	ug/L		26-APR-21	
Surrogate: 4-Bromofluorobenzene	79.7		70-130	%		26-APR-21	R5441142
Surrogate: 1,4-Difluorobenzene	97.3		70-130	%		26-APR-21	R5441142
Hydrocarbons							
F1 (C6-C10)	<25		25	ug/L		26-APR-21	R5441142
F1-BTEX	<25		25	ug/L		28-APR-21	
F2 (C10-C16)	<100		100	ug/L	23-APR-21	26-APR-21	R5441107
F2-Naphth	<100		100	ug/L		28-APR-21	
F3 (C16-C34)	<250		250	ug/L	23-APR-21	26-APR-21	R5441107
F3-PAH	<250		250	ug/L		28-APR-21	
F4 (C34-C50)	<250		250	ug/L	23-APR-21	26-APR-21	R5441107
Total Hydrocarbons (C6-C50)	<370		370	ug/L		28-APR-21	
Chrom. to baseline at nC50	YES				23-APR-21	26-APR-21	R5441107
Surrogate: 2-Bromobenzotrifluoride	92.6		60-140	%	23-APR-21	26-APR-21	R5441107
Surrogate: 3,4-Dichlorotoluene	69.9		60-140	%		26-APR-21	R5441142
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Acenaphthylene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Anthracene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303

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ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2579308-2 MW20-24 Sampled By: CLIENT on 21-APR-21 Matrix: WATER							
Polycyclic Aromatic Hydrocarbons							
Benzo(a)anthracene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(a)pyrene	<0.010		0.010	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(b&j)fluoranthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(g,h,i)perylene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(k)fluoranthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Chrysene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Dibenz(a,h)anthracene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Fluoranthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Fluorene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Indeno(1,2,3-cd)pyrene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
1+2-Methylnaphthalenes	<0.028		0.028	ug/L		28-APR-21	
1-Methylnaphthalene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
2-Methylnaphthalene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Naphthalene	<0.050		0.050	ug/L	23-APR-21	28-APR-21	R5441303
Phenanthrene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Pyrene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Surrogate: Chrysene d12	106.6		50-150	%	23-APR-21	28-APR-21	R5441303
Surrogate: Naphthalene d8	104.0		60-140	%	23-APR-21	28-APR-21	R5441303
Surrogate: Phenanthrene d10	105.3		60-140	%	23-APR-21	28-APR-21	R5441303
L2579308-3 MW10 Sampled By: CLIENT on 21-APR-21 Matrix: WATER							
Physical Tests							
Conductivity	1.15		0.0030	mS/cm		24-APR-21	R5441399
pH	7.39		0.10	pH units		24-APR-21	R5441399
Anions and Nutrients							
Chloride (Cl)	26.8	DLHC	2.5	mg/L		26-APR-21	R5441939
Cyanides							
Cyanide, Weak Acid Diss	<2.0		2.0	ug/L		23-APR-21	R5440560
Dissolved Metals							
Dissolved Mercury Filtration Location	FIELD					23-APR-21	R5440102
Dissolved Metals Filtration Location	FIELD					23-APR-21	R5439480
Antimony (Sb)-Dissolved	<0.10		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Arsenic (As)-Dissolved	0.30		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Barium (Ba)-Dissolved	114		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Beryllium (Be)-Dissolved	<0.10		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Boron (B)-Dissolved	46		10	ug/L	23-APR-21	26-APR-21	R5440992
Cadmium (Cd)-Dissolved	0.041		0.010	ug/L	23-APR-21	26-APR-21	R5440992
Chromium (Cr)-Dissolved	<0.50		0.50	ug/L	23-APR-21	26-APR-21	R5440992
Cobalt (Co)-Dissolved	0.22		0.10	ug/L	23-APR-21	26-APR-21	R5440992
Copper (Cu)-Dissolved	2.79		0.20	ug/L	23-APR-21	26-APR-21	R5440992
Lead (Pb)-Dissolved	0.318		0.050	ug/L	23-APR-21	26-APR-21	R5440992

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2579308-3 MW10							
Sampled By: CLIENT on 21-APR-21							
Matrix: WATER							
Dissolved Metals							
Mercury (Hg)-Dissolved	<0.0050		0.0050	ug/L	23-APR-21	26-APR-21	R5441237
Molybdenum (Mo)-Dissolved	0.718		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Nickel (Ni)-Dissolved	1.45		0.50	ug/L	23-APR-21	26-APR-21	R5440992
Selenium (Se)-Dissolved	0.204		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Silver (Ag)-Dissolved	<0.050		0.050	ug/L	23-APR-21	26-APR-21	R5440992
Sodium (Na)-Dissolved	7520		500	ug/L	23-APR-21	26-APR-21	R5440992
Thallium (Tl)-Dissolved	0.026		0.010	ug/L	23-APR-21	26-APR-21	R5440992
Uranium (U)-Dissolved	1.07		0.010	ug/L	23-APR-21	26-APR-21	R5440992
Vanadium (V)-Dissolved	<0.50		0.50	ug/L	23-APR-21	26-APR-21	R5440992
Zinc (Zn)-Dissolved	9.3		1.0	ug/L	23-APR-21	26-APR-21	R5440992
Speciated Metals							
Chromium, Hexavalent	<0.50		0.50	ug/L		23-APR-21	R5441277
Volatile Organic Compounds							
Acetone	<30	OWP	30	ug/L		26-APR-21	R5441142
Benzene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Bromodichloromethane	<2.0	OWP	2.0	ug/L		26-APR-21	R5441142
Bromoform	<5.0	OWP	5.0	ug/L		26-APR-21	R5441142
Bromomethane	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Carbon tetrachloride	<0.20	OWP	0.20	ug/L		26-APR-21	R5441142
Chlorobenzene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Dibromochloromethane	<2.0	OWP	2.0	ug/L		26-APR-21	R5441142
Chloroform	<1.0	OWP	1.0	ug/L		26-APR-21	R5441142
1,2-Dibromoethane	<0.20	OWP	0.20	ug/L		26-APR-21	R5441142
1,2-Dichlorobenzene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
1,3-Dichlorobenzene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
1,4-Dichlorobenzene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Dichlorodifluoromethane	<2.0	OWP	2.0	ug/L		26-APR-21	R5441142
1,1-Dichloroethane	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
1,2-Dichloroethane	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
1,1-Dichloroethylene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
cis-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
trans-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Methylene Chloride	<5.0	OWP	5.0	ug/L		26-APR-21	R5441142
1,2-Dichloropropane	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
cis-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L		26-APR-21	R5441142
trans-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L		26-APR-21	R5441142
1,3-Dichloropropene (cis & trans)	<0.50		0.50	ug/L		26-APR-21	
Ethylbenzene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
n-Hexane	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Methyl Ethyl Ketone	<20	OWP	20	ug/L		26-APR-21	R5441142
Methyl Isobutyl Ketone	<20	OWP	20	ug/L		26-APR-21	R5441142

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2579308-3 MW10							
Sampled By: CLIENT on 21-APR-21							
Matrix: WATER							
Volatile Organic Compounds							
MTBE	<2.0	OWP	2.0	ug/L		26-APR-21	R5441142
Styrene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
1,1,1,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
1,1,2,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Tetrachloroethylene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Toluene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
1,1,1-Trichloroethane	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
1,1,2-Trichloroethane	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Trichloroethylene	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
Trichlorofluoromethane	<5.0	OWP	5.0	ug/L		26-APR-21	R5441142
Vinyl chloride	<0.50	OWP	0.50	ug/L		26-APR-21	R5441142
o-Xylene	<0.30	OWP	0.30	ug/L		26-APR-21	R5441142
m+p-Xylenes	<0.40	OWP	0.40	ug/L		26-APR-21	R5441142
Xylenes (Total)	<0.50		0.50	ug/L		26-APR-21	
Surrogate: 4-Bromofluorobenzene	80.7		70-130	%		26-APR-21	R5441142
Surrogate: 1,4-Difluorobenzene	96.8		70-130	%		26-APR-21	R5441142
Hydrocarbons							
F1 (C6-C10)	<25	OWP	25	ug/L		26-APR-21	R5441142
F1-BTEX	<25		25	ug/L		28-APR-21	
F2 (C10-C16)	<100		100	ug/L	23-APR-21	26-APR-21	R5441107
F2-Naphth	<100		100	ug/L		28-APR-21	
F3 (C16-C34)	<250		250	ug/L	23-APR-21	26-APR-21	R5441107
F3-PAH	<250		250	ug/L		28-APR-21	
F4 (C34-C50)	<250		250	ug/L	23-APR-21	26-APR-21	R5441107
Total Hydrocarbons (C6-C50)	<370		370	ug/L		28-APR-21	
Chrom. to baseline at nC50	YES				23-APR-21	26-APR-21	R5441107
Surrogate: 2-Bromobenzotrifluoride	87.2		60-140	%	23-APR-21	26-APR-21	R5441107
Surrogate: 3,4-Dichlorotoluene	75.2		60-140	%		26-APR-21	R5441142
Polycyclic Aromatic Hydrocarbons							
Acenaphthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Acenaphthylene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Anthracene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(a)anthracene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(a)pyrene	<0.010		0.010	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(b&j)fluoranthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(g,h,i)perylene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Benzo(k)fluoranthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Chrysene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Dibenz(a,h)anthracene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Fluoranthene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Fluorene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2579308-3 MW10 Sampled By: CLIENT on 21-APR-21 Matrix: WATER							
Polycyclic Aromatic Hydrocarbons							
Indeno(1,2,3-cd)pyrene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
1+2-Methylnaphthalenes	<0.028		0.028	ug/L		28-APR-21	
1-Methylnaphthalene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
2-Methylnaphthalene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Naphthalene	<0.050		0.050	ug/L	23-APR-21	28-APR-21	R5441303
Phenanthrene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Pyrene	<0.020		0.020	ug/L	23-APR-21	28-APR-21	R5441303
Surrogate: Chrysene d12	100.2		50-150	%	23-APR-21	28-APR-21	R5441303
Surrogate: Naphthalene d8	97.0		60-140	%	23-APR-21	28-APR-21	R5441303
Surrogate: Phenanthrene d10	97.8		60-140	%	23-APR-21	28-APR-21	R5441303
L2579308-4 TRIP BLANK Sampled By: CLIENT on 21-APR-21 Matrix: WATER							
Volatile Organic Compounds							
Acetone	<30		30	ug/L		28-APR-21	R5442254
Benzene	<0.50		0.50	ug/L		28-APR-21	R5442254
Bromodichloromethane	<2.0		2.0	ug/L		28-APR-21	R5442254
Bromoform	<5.0		5.0	ug/L		28-APR-21	R5442254
Bromomethane	<0.50		0.50	ug/L		28-APR-21	R5442254
Carbon tetrachloride	<0.20		0.20	ug/L		28-APR-21	R5442254
Chlorobenzene	<0.50		0.50	ug/L		28-APR-21	R5442254
Dibromochloromethane	<2.0		2.0	ug/L		28-APR-21	R5442254
Chloroform	<1.0		1.0	ug/L		28-APR-21	R5442254
1,2-Dibromoethane	<0.20		0.20	ug/L		28-APR-21	R5442254
1,2-Dichlorobenzene	<0.50		0.50	ug/L		28-APR-21	R5442254
1,3-Dichlorobenzene	<0.50		0.50	ug/L		28-APR-21	R5442254
1,4-Dichlorobenzene	<0.50		0.50	ug/L		28-APR-21	R5442254
Dichlorodifluoromethane	<2.0		2.0	ug/L		28-APR-21	R5442254
1,1-Dichloroethane	<0.50		0.50	ug/L		28-APR-21	R5442254
1,2-Dichloroethane	<0.50		0.50	ug/L		28-APR-21	R5442254
1,1-Dichloroethylene	<0.50		0.50	ug/L		28-APR-21	R5442254
cis-1,2-Dichloroethylene	<0.50		0.50	ug/L		28-APR-21	R5442254
trans-1,2-Dichloroethylene	<0.50		0.50	ug/L		28-APR-21	R5442254
Methylene Chloride	<5.0		5.0	ug/L		28-APR-21	R5442254
1,2-Dichloropropane	<0.50		0.50	ug/L		28-APR-21	R5442254
cis-1,3-Dichloropropene	<0.30		0.30	ug/L		28-APR-21	R5442254
trans-1,3-Dichloropropene	<0.30		0.30	ug/L		28-APR-21	R5442254
1,3-Dichloropropene (cis & trans)	<0.50		0.50	ug/L		28-APR-21	
Ethylbenzene	<0.50		0.50	ug/L		28-APR-21	R5442254
n-Hexane	<0.50		0.50	ug/L		28-APR-21	R5442254
Methyl Ethyl Ketone	<20		20	ug/L		28-APR-21	R5442254
Methyl Isobutyl Ketone	<20		20	ug/L		28-APR-21	R5442254

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

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample Details/Parameters	Result	Qualifier*	D.L.	Units	Extracted	Analyzed	Batch
L2579308-4 TRIP BLANK							
Sampled By: CLIENT on 21-APR-21							
Matrix: WATER							
Volatile Organic Compounds							
MTBE	<2.0		2.0	ug/L		28-APR-21	R5442254
Styrene	<0.50		0.50	ug/L		28-APR-21	R5442254
1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L		28-APR-21	R5442254
1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L		28-APR-21	R5442254
Tetrachloroethylene	<0.50		0.50	ug/L		28-APR-21	R5442254
Toluene	<0.50		0.50	ug/L		28-APR-21	R5442254
1,1,1-Trichloroethane	<0.50		0.50	ug/L		28-APR-21	R5442254
1,1,2-Trichloroethane	<0.50		0.50	ug/L		28-APR-21	R5442254
Trichloroethylene	<0.50		0.50	ug/L		28-APR-21	R5442254
Trichlorofluoromethane	<5.0		5.0	ug/L		28-APR-21	R5442254
Vinyl chloride	<0.50		0.50	ug/L		28-APR-21	R5442254
o-Xylene	<0.30		0.30	ug/L		28-APR-21	R5442254
m+p-Xylenes	<0.40		0.40	ug/L		28-APR-21	R5442254
Xylenes (Total)	<0.50		0.50	ug/L		28-APR-21	
Surrogate: 4-Bromofluorobenzene	104.9		70-130	%		28-APR-21	R5442254
Surrogate: 1,4-Difluorobenzene	100.7		70-130	%		28-APR-21	R5442254

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

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L2579308-1, -2, -3
Matrix Spike	Boron (B)-Dissolved	MS-B	L2579308-1, -2, -3
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L2579308-1, -2, -3

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.
OWP	Organic water sample contained visible sediment (must be included as part of analysis). Measured concentrations of organic substances in water can be biased high due to presence of sediment.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
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CL-IC-N-WT	Water	Chloride by IC	EPA 300.1 (mod)
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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
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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 2011)	EPA 7199
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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 2011)	APHA 2510 B
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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 Only)	APHA 2510
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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 Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-L
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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.

Reference Information

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 CVAAS (ug/L) EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.

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

MET-D-UG/L-MS-WT Water Diss. Metals in Water by ICPMS (ug/L) EPA 200.8

The metal constituents of a non-acidified sample that pass through a membrane filter prior to ICP/MS analysis.

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

METHYLNAPS-CALC-WT Water PAH-Calculated Parameters SW846 8270

PAH-511-WT Water PAH-O. Reg 153/04 (July 2011) SW846 3510/8270

Aqueous samples, fortified with surrogates, are extracted using liquid/liquid extraction technique. The sample extracts are concentrated and then analyzed using GC/MS. Results for benzo(b) fluoranthene may include contributions from benzo(j)fluoranthene, if also present in the sample.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental 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-WT Water Sum of Xylene Isomer Concentrations CALCULATION

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

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

Chain of Custody Numbers:

20-894372

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid weight of sample

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 1 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-N-WT		Water						
Batch	R5441939							
WG3524385-15	DUP	WG3524385-13						
Chloride (Cl)		7.34	7.32		mg/L	0.3	20	26-APR-21
WG3524385-12	LCS							
Chloride (Cl)			100.5		%		90-110	26-APR-21
WG3524385-11	MB							
Chloride (Cl)			<0.50		mg/L		0.5	26-APR-21
WG3524385-14	MS	WG3524385-13						
Chloride (Cl)			99.1		%		75-125	26-APR-21
CN-WAD-R511-WT		Water						
Batch	R5440560							
WG3523208-15	DUP	WG3523208-13						
Cyanide, Weak Acid Diss		<2.0	<2.0	RPD-NA	ug/L	N/A	20	23-APR-21
WG3523208-12	LCS							
Cyanide, Weak Acid Diss			102.3		%		80-120	23-APR-21
WG3523208-11	MB							
Cyanide, Weak Acid Diss			<2.0		ug/L		2	23-APR-21
WG3523208-14	MS	WG3523208-13						
Cyanide, Weak Acid Diss			99.6		%		75-125	23-APR-21
CR-CR6-IC-R511-WT		Water						
Batch	R5441277							
WG3523228-4	DUP	WG3523228-3						
Chromium, Hexavalent		<0.50	<0.50	RPD-NA	ug/L	N/A	20	23-APR-21
WG3523228-2	LCS							
Chromium, Hexavalent			100.8		%		80-120	23-APR-21
WG3523228-1	MB							
Chromium, Hexavalent			<0.50		ug/L		0.5	23-APR-21
WG3523228-5	MS	WG3523228-3						
Chromium, Hexavalent			100.2		%		70-130	23-APR-21
EC-R511-WT		Water						
Batch	R5441399							
WG3523503-4	DUP	WG3523503-3						
Conductivity		0.742	0.741		mS/cm	0.1	10	24-APR-21
WG3523503-2	LCS							
Conductivity			101.3		%		90-110	24-APR-21
F1-HS-511-WT		Water						



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 2 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT								
Water								
Batch	R5441102							
WG3523767-4	DUP	WG3523767-3						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	26-APR-21
WG3523767-1	LCS							
F1 (C6-C10)			114.4		%		80-120	26-APR-21
WG3523767-2	MB							
F1 (C6-C10)			<25		ug/L		25	26-APR-21
Surrogate: 3,4-Dichlorotoluene			142.8	SURQC	%		60-140	26-APR-21
WG3523767-5	MS	L2578947-1						
F1 (C6-C10)			95.7		%		60-140	26-APR-21
Batch								
R5441142								
WG3523782-4	DUP	WG3523782-3						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	26-APR-21
WG3523782-1	LCS							
F1 (C6-C10)			108.2		%		80-120	26-APR-21
WG3523782-2	MB							
F1 (C6-C10)			<25		ug/L		25	26-APR-21
Surrogate: 3,4-Dichlorotoluene			91.7		%		60-140	26-APR-21
WG3523782-5	MS	WG3523782-3						
F1 (C6-C10)			84.0		%		60-140	26-APR-21
F2-F4-511-WT								
Water								
Batch	R5441107							
WG3522860-2	LCS							
F2 (C10-C16)			106.3		%		70-130	26-APR-21
F3 (C16-C34)			109.6		%		70-130	26-APR-21
F4 (C34-C50)			107.9		%		70-130	26-APR-21
WG3522860-1	MB							
F2 (C10-C16)			<100		ug/L		100	26-APR-21
F3 (C16-C34)			<250		ug/L		250	26-APR-21
F4 (C34-C50)			<250		ug/L		250	26-APR-21
Surrogate: 2-Bromobenzotrifluoride			89.8		%		60-140	26-APR-21
HG-D-UG/L-CVAA-WT								
Water								
Batch	R5441237							
WG3523110-4	DUP	WG3523110-3						
Mercury (Hg)-Dissolved		<0.0050	<0.0050	RPD-NA	ug/L	N/A	20	26-APR-21
WG3523110-2	LCS							
Mercury (Hg)-Dissolved			110.0		%		80-120	26-APR-21
WG3523110-1	MB							



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 3 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-D-UG/L-CVAA-WT Water								
Batch R5441237								
WG3523110-1 MB								
Mercury (Hg)-Dissolved			<0.0050		ug/L		0.005	26-APR-21
WG3523110-6 MS WG3523110-5								
Mercury (Hg)-Dissolved			105.4		%		70-130	26-APR-21
MET-D-UG/L-MS-WT Water								
Batch R5440992								
WG3522793-4 DUP WG3522793-3								
Antimony (Sb)-Dissolved		0.56	0.56		ug/L	0.5	20	26-APR-21
Arsenic (As)-Dissolved		4.07	4.10		ug/L	0.6	20	26-APR-21
Barium (Ba)-Dissolved		121	123		ug/L	1.4	20	26-APR-21
Beryllium (Be)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	26-APR-21
Boron (B)-Dissolved		26	27		ug/L	3.8	20	26-APR-21
Cadmium (Cd)-Dissolved		<0.0050	<0.0050	RPD-NA	ug/L	N/A	20	26-APR-21
Chromium (Cr)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	26-APR-21
Cobalt (Co)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	26-APR-21
Copper (Cu)-Dissolved		0.57	0.58		ug/L	1.7	20	26-APR-21
Lead (Pb)-Dissolved		0.069	0.068		ug/L	1.3	20	26-APR-21
Molybdenum (Mo)-Dissolved		0.676	0.664		ug/L	1.7	20	26-APR-21
Nickel (Ni)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	26-APR-21
Selenium (Se)-Dissolved		0.063	0.057		ug/L	10	20	26-APR-21
Silver (Ag)-Dissolved		<0.050	<0.050	RPD-NA	ug/L	N/A	20	26-APR-21
Sodium (Na)-Dissolved		13500	13600		ug/L	0.3	20	26-APR-21
Thallium (Tl)-Dissolved		<0.010	<0.010	RPD-NA	ug/L	N/A	20	26-APR-21
Uranium (U)-Dissolved		0.543	0.549		ug/L	1.1	20	26-APR-21
Vanadium (V)-Dissolved		1.67	1.69		ug/L	1.5	20	26-APR-21
Zinc (Zn)-Dissolved		1.0	1.1		ug/L	0.8	20	26-APR-21
WG3522793-2 LCS								
Antimony (Sb)-Dissolved			100.2		%		80-120	23-APR-21
Arsenic (As)-Dissolved			101.3		%		80-120	23-APR-21
Barium (Ba)-Dissolved			104.9		%		80-120	23-APR-21
Beryllium (Be)-Dissolved			110.7		%		80-120	23-APR-21
Boron (B)-Dissolved			107.9		%		80-120	23-APR-21
Cadmium (Cd)-Dissolved			100.5		%		80-120	23-APR-21
Chromium (Cr)-Dissolved			100.9		%		80-120	23-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 4 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT								
	Water							
Batch	R5440992							
WG3522793-2	LCS							
Cobalt (Co)-Dissolved			100.7		%		80-120	23-APR-21
Copper (Cu)-Dissolved			97.7		%		80-120	23-APR-21
Lead (Pb)-Dissolved			100.4		%		80-120	23-APR-21
Molybdenum (Mo)-Dissolved			101.4		%		80-120	23-APR-21
Nickel (Ni)-Dissolved			98.9		%		80-120	23-APR-21
Selenium (Se)-Dissolved			101.0		%		80-120	23-APR-21
Silver (Ag)-Dissolved			101.0		%		80-120	23-APR-21
Sodium (Na)-Dissolved			103.8		%		80-120	23-APR-21
Thallium (Tl)-Dissolved			100.1		%		80-120	23-APR-21
Uranium (U)-Dissolved			102.9		%		80-120	23-APR-21
Vanadium (V)-Dissolved			104.1		%		80-120	23-APR-21
Zinc (Zn)-Dissolved			95.1		%		80-120	23-APR-21
WG3522793-1	MB							
Antimony (Sb)-Dissolved			<0.10		ug/L		0.1	23-APR-21
Arsenic (As)-Dissolved			<0.10		ug/L		0.1	23-APR-21
Barium (Ba)-Dissolved			<0.10		ug/L		0.1	23-APR-21
Beryllium (Be)-Dissolved			<0.10		ug/L		0.1	23-APR-21
Boron (B)-Dissolved			<10		ug/L		10	23-APR-21
Cadmium (Cd)-Dissolved			<0.0050		ug/L		0.005	23-APR-21
Chromium (Cr)-Dissolved			<0.50		ug/L		0.5	23-APR-21
Cobalt (Co)-Dissolved			<0.10		ug/L		0.1	23-APR-21
Copper (Cu)-Dissolved			<0.20		ug/L		0.2	23-APR-21
Lead (Pb)-Dissolved			<0.050		ug/L		0.05	23-APR-21
Molybdenum (Mo)-Dissolved			<0.050		ug/L		0.05	23-APR-21
Nickel (Ni)-Dissolved			<0.50		ug/L		0.5	23-APR-21
Selenium (Se)-Dissolved			<0.050		ug/L		0.05	23-APR-21
Silver (Ag)-Dissolved			<0.050		ug/L		0.05	23-APR-21
Sodium (Na)-Dissolved			<50		ug/L		50	23-APR-21
Thallium (Tl)-Dissolved			<0.010		ug/L		0.01	23-APR-21
Uranium (U)-Dissolved			<0.010		ug/L		0.01	23-APR-21
Vanadium (V)-Dissolved			<0.50		ug/L		0.5	23-APR-21
Zinc (Zn)-Dissolved			<1.0		ug/L		1	23-APR-21
WG3522793-5	MS	WG3522793-6						
Antimony (Sb)-Dissolved			98.3		%		70-130	23-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 5 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT								
	Water							
Batch	R5440992							
WG3522793-5 MS		WG3522793-6						
Arsenic (As)-Dissolved			96.7		%		70-130	23-APR-21
Barium (Ba)-Dissolved			N/A	MS-B	%		-	23-APR-21
Beryllium (Be)-Dissolved			104.2		%		70-130	23-APR-21
Boron (B)-Dissolved			N/A	MS-B	%		-	23-APR-21
Cadmium (Cd)-Dissolved			96.0		%		70-130	23-APR-21
Chromium (Cr)-Dissolved			86.1		%		70-130	23-APR-21
Cobalt (Co)-Dissolved			85.6		%		70-130	23-APR-21
Copper (Cu)-Dissolved			82.8		%		70-130	23-APR-21
Lead (Pb)-Dissolved			95.2		%		70-130	23-APR-21
Molybdenum (Mo)-Dissolved			98.8		%		70-130	23-APR-21
Nickel (Ni)-Dissolved			72.2		%		70-130	23-APR-21
Selenium (Se)-Dissolved			97.7		%		70-130	23-APR-21
Silver (Ag)-Dissolved			74.1		%		70-130	23-APR-21
Sodium (Na)-Dissolved			N/A	MS-B	%		-	23-APR-21
Thallium (Tl)-Dissolved			96.5		%		70-130	23-APR-21
Uranium (U)-Dissolved			92.3		%		70-130	23-APR-21
Vanadium (V)-Dissolved			96.5		%		70-130	23-APR-21
Zinc (Zn)-Dissolved			72.3		%		70-130	23-APR-21
PAH-511-WT								
	Water							
Batch	R5441303							
WG3522860-2 LCS								
1-Methylnaphthalene			90.8		%		50-140	26-APR-21
2-Methylnaphthalene			87.6		%		50-140	26-APR-21
Acenaphthene			90.0		%		50-140	26-APR-21
Acenaphthylene			89.3		%		50-140	26-APR-21
Anthracene			89.6		%		50-140	26-APR-21
Benzo(a)anthracene			99.0		%		50-140	26-APR-21
Benzo(a)pyrene			87.8		%		50-140	26-APR-21
Benzo(b&j)fluoranthene			88.7		%		50-140	26-APR-21
Benzo(g,h,i)perylene			93.0		%		50-140	26-APR-21
Benzo(k)fluoranthene			89.5		%		50-140	26-APR-21
Chrysene			97.7		%		50-140	26-APR-21
Dibenz(a,h)anthracene			92.2		%		50-140	26-APR-21
Fluoranthene			89.8		%		50-140	26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 6 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT								
	Water							
Batch	R5441303							
WG3522860-2	LCS							
Fluoranthene			89.8		%		50-140	26-APR-21
Fluorene			93.2		%		50-140	26-APR-21
Indeno(1,2,3-cd)pyrene			99.4		%		50-140	26-APR-21
Naphthalene			90.0		%		50-140	26-APR-21
Phenanthrene			94.7		%		50-140	26-APR-21
Pyrene			87.8		%		50-140	26-APR-21
WG3522860-1	MB							
1-Methylnaphthalene			<0.020		ug/L		0.02	26-APR-21
2-Methylnaphthalene			<0.020		ug/L		0.02	26-APR-21
Acenaphthene			<0.020		ug/L		0.02	26-APR-21
Acenaphthylene			<0.020		ug/L		0.02	26-APR-21
Anthracene			<0.020		ug/L		0.02	26-APR-21
Benzo(a)anthracene			<0.020		ug/L		0.02	26-APR-21
Benzo(a)pyrene			<0.010		ug/L		0.01	26-APR-21
Benzo(b&j)fluoranthene			<0.020		ug/L		0.02	26-APR-21
Benzo(g,h,i)perylene			<0.020		ug/L		0.02	26-APR-21
Benzo(k)fluoranthene			<0.020		ug/L		0.02	26-APR-21
Chrysene			<0.020		ug/L		0.02	26-APR-21
Dibenz(a,h)anthracene			<0.020		ug/L		0.02	26-APR-21
Fluoranthene			<0.020		ug/L		0.02	26-APR-21
Fluorene			<0.020		ug/L		0.02	26-APR-21
Indeno(1,2,3-cd)pyrene			<0.020		ug/L		0.02	26-APR-21
Naphthalene			<0.050		ug/L		0.05	26-APR-21
Phenanthrene			<0.020		ug/L		0.02	26-APR-21
Pyrene			<0.020		ug/L		0.02	26-APR-21
Surrogate: Naphthalene d8			102.7		%		60-140	26-APR-21
Surrogate: Phenanthrene d10			105.2		%		60-140	26-APR-21
Surrogate: Chrysene d12			98.7		%		50-150	26-APR-21
PH-WT								
	Water							
Batch	R5441399							
WG3523503-4	DUP	WG3523503-3						
pH		8.34	8.34	J	pH units	0.00	0.2	24-APR-21
WG3523503-2	LCS							
pH			7.01		pH units		6.9-7.1	24-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 7 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5441102							
WG3523767-4	DUP	WG3523767-3						
1,1,1,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1,2,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1,1-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1,2-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,2-Dibromoethane		<0.20	<0.20	RPD-NA	ug/L	N/A	30	26-APR-21
1,2-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,2-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,2-Dichloropropane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,3-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,4-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Acetone		<30	<30	RPD-NA	ug/L	N/A	30	26-APR-21
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Bromodichloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	26-APR-21
Bromoform		<5.0	<5.0	RPD-NA	ug/L	N/A	30	26-APR-21
Bromomethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Carbon tetrachloride		<0.20	<0.20	RPD-NA	ug/L	N/A	30	26-APR-21
Chlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Chloroform		<1.0	<1.0	RPD-NA	ug/L	N/A	30	26-APR-21
cis-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
cis-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	26-APR-21
Dibromochloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	26-APR-21
Dichlorodifluoromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	26-APR-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
n-Hexane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	26-APR-21
Methyl Ethyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	26-APR-21
Methyl Isobutyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	26-APR-21
Methylene Chloride		<5.0	<5.0	RPD-NA	ug/L	N/A	30	26-APR-21
MTBE		<2.0	<2.0	RPD-NA	ug/L	N/A	30	26-APR-21
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	26-APR-21
Styrene		<0.50	<0.50		ug/L			26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 8 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5441102							
WG3523767-4	DUP	WG3523767-3						
Styrene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Tetrachloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
trans-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
trans-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	26-APR-21
Trichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Trichlorofluoromethane		<5.0	<5.0	RPD-NA	ug/L	N/A	30	26-APR-21
Vinyl chloride		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
WG3523767-1	LCS							
1,1,1,2-Tetrachloroethane			96.4		%		70-130	26-APR-21
1,1,2,2-Tetrachloroethane			83.2		%		70-130	26-APR-21
1,1,1-Trichloroethane			95.8		%		70-130	26-APR-21
1,1,2-Trichloroethane			92.0		%		70-130	26-APR-21
1,1-Dichloroethane			91.8		%		70-130	26-APR-21
1,1-Dichloroethylene			93.7		%		70-130	26-APR-21
1,2-Dibromoethane			96.7		%		70-130	26-APR-21
1,2-Dichlorobenzene			96.4		%		70-130	26-APR-21
1,2-Dichloroethane			91.9		%		70-130	26-APR-21
1,2-Dichloropropane			94.8		%		70-130	26-APR-21
1,3-Dichlorobenzene			95.7		%		70-130	26-APR-21
1,4-Dichlorobenzene			97.6		%		70-130	26-APR-21
Acetone			87.1		%		60-140	26-APR-21
Benzene			89.7		%		70-130	26-APR-21
Bromodichloromethane			95.9		%		70-130	26-APR-21
Bromoform			99.0		%		70-130	26-APR-21
Bromomethane			93.5		%		60-140	26-APR-21
Carbon tetrachloride			98.8		%		70-130	26-APR-21
Chlorobenzene			93.9		%		70-130	26-APR-21
Chloroform			95.3		%		70-130	26-APR-21
cis-1,2-Dichloroethylene			94.9		%		70-130	26-APR-21
cis-1,3-Dichloropropene			94.1		%		70-130	26-APR-21
Dibromochloromethane			89.6		%		70-130	26-APR-21
Dichlorodifluoromethane			85.6		%		50-140	26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 9 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5441102							
WG3523767-1	LCS							
Ethylbenzene			98.6		%		70-130	26-APR-21
n-Hexane			90.5		%		70-130	26-APR-21
m+p-Xylenes			97.5		%		70-130	26-APR-21
Methyl Ethyl Ketone			100.9		%		60-140	26-APR-21
Methyl Isobutyl Ketone			79.1		%		60-140	26-APR-21
Methylene Chloride			95.6		%		70-130	26-APR-21
MTBE			92.8		%		70-130	26-APR-21
o-Xylene			102.9		%		70-130	26-APR-21
Styrene			97.5		%		70-130	26-APR-21
Tetrachloroethylene			102.2		%		70-130	26-APR-21
Toluene			99.1		%		70-130	26-APR-21
trans-1,2-Dichloroethylene			96.0		%		70-130	26-APR-21
trans-1,3-Dichloropropene			103.5		%		70-130	26-APR-21
Trichloroethylene			95.2		%		70-130	26-APR-21
Trichlorofluoromethane			95.4		%		60-140	26-APR-21
Vinyl chloride			96.3		%		60-140	26-APR-21
WG3523767-2	MB							
1,1,1,2-Tetrachloroethane			<0.50		ug/L		0.5	26-APR-21
1,1,2,2-Tetrachloroethane			<0.50		ug/L		0.5	26-APR-21
1,1,1-Trichloroethane			<0.50		ug/L		0.5	26-APR-21
1,1,2-Trichloroethane			<0.50		ug/L		0.5	26-APR-21
1,1-Dichloroethane			<0.50		ug/L		0.5	26-APR-21
1,1-Dichloroethylene			<0.50		ug/L		0.5	26-APR-21
1,2-Dibromoethane			<0.20		ug/L		0.2	26-APR-21
1,2-Dichlorobenzene			<0.50		ug/L		0.5	26-APR-21
1,2-Dichloroethane			<0.50		ug/L		0.5	26-APR-21
1,2-Dichloropropane			<0.50		ug/L		0.5	26-APR-21
1,3-Dichlorobenzene			<0.50		ug/L		0.5	26-APR-21
1,4-Dichlorobenzene			<0.50		ug/L		0.5	26-APR-21
Acetone			<30		ug/L		30	26-APR-21
Benzene			<0.50		ug/L		0.5	26-APR-21
Bromodichloromethane			<2.0		ug/L		2	26-APR-21
Bromoform			<5.0		ug/L		5	26-APR-21
Bromomethane			<0.50		ug/L		0.5	26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 10 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5441102							
WG3523767-2 MB								
Carbon tetrachloride			<0.20		ug/L		0.2	26-APR-21
Chlorobenzene			<0.50		ug/L		0.5	26-APR-21
Chloroform			<1.0		ug/L		1	26-APR-21
cis-1,2-Dichloroethylene			<0.50		ug/L		0.5	26-APR-21
cis-1,3-Dichloropropene			<0.30		ug/L		0.3	26-APR-21
Dibromochloromethane			<2.0		ug/L		2	26-APR-21
Dichlorodifluoromethane			<2.0		ug/L		2	26-APR-21
Ethylbenzene			<0.50		ug/L		0.5	26-APR-21
n-Hexane			<0.50		ug/L		0.5	26-APR-21
m+p-Xylenes			<0.40		ug/L		0.4	26-APR-21
Methyl Ethyl Ketone			<20		ug/L		20	26-APR-21
Methyl Isobutyl Ketone			<20		ug/L		20	26-APR-21
Methylene Chloride			<5.0		ug/L		5	26-APR-21
MTBE			<2.0		ug/L		2	26-APR-21
o-Xylene			<0.30		ug/L		0.3	26-APR-21
Styrene			<0.50		ug/L		0.5	26-APR-21
Tetrachloroethylene			<0.50		ug/L		0.5	26-APR-21
Toluene			<0.50		ug/L		0.5	26-APR-21
trans-1,2-Dichloroethylene			<0.50		ug/L		0.5	26-APR-21
trans-1,3-Dichloropropene			<0.30		ug/L		0.3	26-APR-21
Trichloroethylene			<0.50		ug/L		0.5	26-APR-21
Trichlorofluoromethane			<5.0		ug/L		5	26-APR-21
Vinyl chloride			<0.50		ug/L		0.5	26-APR-21
Surrogate: 1,4-Difluorobenzene			101.0		%		70-130	26-APR-21
Surrogate: 4-Bromofluorobenzene			97.2		%		70-130	26-APR-21
WG3523767-5 MS		L2578947-1						
1,1,1,2-Tetrachloroethane			94.8		%		50-140	26-APR-21
1,1,2,2-Tetrachloroethane			59.3		%		50-140	26-APR-21
1,1,1-Trichloroethane			91.7		%		50-140	26-APR-21
1,1,2-Trichloroethane			89.5		%		50-140	26-APR-21
1,1-Dichloroethane			123.9		%		50-140	26-APR-21
1,1-Dichloroethylene			89.7		%		50-140	26-APR-21
1,2-Dibromoethane			93.5		%		50-140	26-APR-21
1,2-Dichlorobenzene			95.0		%		50-140	26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 11 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5441102							
WG3523767-5 MS		L2578947-1						
1,2-Dichloroethane			90.5		%		50-140	26-APR-21
1,2-Dichloropropane			92.7		%		50-140	26-APR-21
1,3-Dichlorobenzene			108.9		%		50-140	26-APR-21
1,4-Dichlorobenzene			108.2		%		50-140	26-APR-21
Acetone			80.5		%		50-140	26-APR-21
Benzene			86.8		%		50-140	26-APR-21
Bromodichloromethane			94.6		%		50-140	26-APR-21
Bromoform			91.1		%		50-140	26-APR-21
Bromomethane			90.1		%		50-140	26-APR-21
Carbon tetrachloride			94.9		%		50-140	26-APR-21
Chlorobenzene			90.9		%		50-140	26-APR-21
Chloroform			92.8		%		50-140	26-APR-21
cis-1,2-Dichloroethylene			92.1		%		50-140	26-APR-21
cis-1,3-Dichloropropene			91.9		%		50-140	26-APR-21
Dibromochloromethane			87.5		%		50-140	26-APR-21
Dichlorodifluoromethane			79.2		%		50-140	26-APR-21
Ethylbenzene			94.9		%		50-140	26-APR-21
n-Hexane			86.2		%		50-140	26-APR-21
m+p-Xylenes			93.5		%		50-140	26-APR-21
Methyl Ethyl Ketone			89.6		%		50-140	26-APR-21
Methyl Isobutyl Ketone			67.8		%		50-140	26-APR-21
Methylene Chloride			93.1		%		50-140	26-APR-21
MTBE			91.7		%		50-140	26-APR-21
o-Xylene			99.9		%		50-140	26-APR-21
Styrene			95.5		%		50-140	26-APR-21
Tetrachloroethylene			97.5		%		50-140	26-APR-21
Toluene			94.1		%		50-140	26-APR-21
trans-1,2-Dichloroethylene			92.6		%		50-140	26-APR-21
trans-1,3-Dichloropropene			100.6		%		50-140	26-APR-21
Trichloroethylene			92.5		%		50-140	26-APR-21
Trichlorofluoromethane			92.1		%		50-140	26-APR-21
Vinyl chloride			92.1		%		50-140	26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 12 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5441142							
WG3523782-4	DUP	WG3523782-3						
1,1,1,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1,2,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1,1-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1,2-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,1-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,2-Dibromoethane		<0.20	<0.20	RPD-NA	ug/L	N/A	30	26-APR-21
1,2-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,2-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,2-Dichloropropane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,3-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
1,4-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Acetone		<30	<30	RPD-NA	ug/L	N/A	30	26-APR-21
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Bromodichloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	26-APR-21
Bromoform		<5.0	<5.0	RPD-NA	ug/L	N/A	30	26-APR-21
Bromomethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Carbon tetrachloride		<0.20	<0.20	RPD-NA	ug/L	N/A	30	26-APR-21
Chlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Chloroform		<1.0	<1.0	RPD-NA	ug/L	N/A	30	26-APR-21
cis-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
cis-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	26-APR-21
Dibromochloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	26-APR-21
Dichlorodifluoromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	26-APR-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
n-Hexane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	26-APR-21
Methyl Ethyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	26-APR-21
Methyl Isobutyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	26-APR-21
Methylene Chloride		<5.0	<5.0	RPD-NA	ug/L	N/A	30	26-APR-21
MTBE		<2.0	<2.0	RPD-NA	ug/L	N/A	30	26-APR-21
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	26-APR-21
Styrene		<0.50	<0.50		ug/L			26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 13 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5441142							
WG3523782-4	DUP	WG3523782-3						
Styrene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Tetrachloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
trans-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
trans-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	26-APR-21
Trichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
Trichlorofluoromethane		<5.0	<5.0	RPD-NA	ug/L	N/A	30	26-APR-21
Vinyl chloride		<0.50	<0.50	RPD-NA	ug/L	N/A	30	26-APR-21
WG3523782-1	LCS							
1,1,1,2-Tetrachloroethane			97.0		%		70-130	26-APR-21
1,1,2,2-Tetrachloroethane			92.4		%		70-130	26-APR-21
1,1,1-Trichloroethane			98.5		%		70-130	26-APR-21
1,1,2-Trichloroethane			91.1		%		70-130	26-APR-21
1,1-Dichloroethane			104.1		%		70-130	26-APR-21
1,1-Dichloroethylene			108.9		%		70-130	26-APR-21
1,2-Dibromoethane			88.7		%		70-130	26-APR-21
1,2-Dichlorobenzene			100.7		%		70-130	26-APR-21
1,2-Dichloroethane			97.3		%		70-130	26-APR-21
1,2-Dichloropropane			103.1		%		70-130	26-APR-21
1,3-Dichlorobenzene			104.2		%		70-130	26-APR-21
1,4-Dichlorobenzene			105.4		%		70-130	26-APR-21
Acetone			106.8		%		60-140	26-APR-21
Benzene			100.1		%		70-130	26-APR-21
Bromodichloromethane			102.0		%		70-130	26-APR-21
Bromoform			93.1		%		70-130	26-APR-21
Bromomethane			93.2		%		60-140	26-APR-21
Carbon tetrachloride			101.1		%		70-130	26-APR-21
Chlorobenzene			100.2		%		70-130	26-APR-21
Chloroform			102.6		%		70-130	26-APR-21
cis-1,2-Dichloroethylene			99.4		%		70-130	26-APR-21
cis-1,3-Dichloropropene			99.7		%		70-130	26-APR-21
Dibromochloromethane			87.4		%		70-130	26-APR-21
Dichlorodifluoromethane			87.4		%		50-140	26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 14 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5441142							
WG3523782-1	LCS							
Ethylbenzene			104.2		%		70-130	26-APR-21
n-Hexane			109.4		%		70-130	26-APR-21
m+p-Xylenes			104.0		%		70-130	26-APR-21
Methyl Ethyl Ketone			90.7		%		60-140	26-APR-21
Methyl Isobutyl Ketone			99.3		%		60-140	26-APR-21
Methylene Chloride			104.5		%		70-130	26-APR-21
MTBE			98.7		%		70-130	26-APR-21
o-Xylene			110.1		%		70-130	26-APR-21
Styrene			99.4		%		70-130	26-APR-21
Tetrachloroethylene			92.6		%		70-130	26-APR-21
Toluene			102.2		%		70-130	26-APR-21
trans-1,2-Dichloroethylene			111.9		%		70-130	26-APR-21
trans-1,3-Dichloropropene			99.7		%		70-130	26-APR-21
Trichloroethylene			96.7		%		70-130	26-APR-21
Trichlorofluoromethane			103.4		%		60-140	26-APR-21
Vinyl chloride			108.1		%		60-140	26-APR-21
WG3523782-2	MB							
1,1,1,2-Tetrachloroethane			<0.50		ug/L		0.5	26-APR-21
1,1,2,2-Tetrachloroethane			<0.50		ug/L		0.5	26-APR-21
1,1,1-Trichloroethane			<0.50		ug/L		0.5	26-APR-21
1,1,2-Trichloroethane			<0.50		ug/L		0.5	26-APR-21
1,1-Dichloroethane			<0.50		ug/L		0.5	26-APR-21
1,1-Dichloroethylene			<0.50		ug/L		0.5	26-APR-21
1,2-Dibromoethane			<0.20		ug/L		0.2	26-APR-21
1,2-Dichlorobenzene			<0.50		ug/L		0.5	26-APR-21
1,2-Dichloroethane			<0.50		ug/L		0.5	26-APR-21
1,2-Dichloropropane			<0.50		ug/L		0.5	26-APR-21
1,3-Dichlorobenzene			<0.50		ug/L		0.5	26-APR-21
1,4-Dichlorobenzene			<0.50		ug/L		0.5	26-APR-21
Acetone			<30		ug/L		30	26-APR-21
Benzene			<0.50		ug/L		0.5	26-APR-21
Bromodichloromethane			<2.0		ug/L		2	26-APR-21
Bromoform			<5.0		ug/L		5	26-APR-21
Bromomethane			<0.50		ug/L		0.5	26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 15 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5441142							
WG3523782-2 MB								
Carbon tetrachloride			<0.20		ug/L		0.2	26-APR-21
Chlorobenzene			<0.50		ug/L		0.5	26-APR-21
Chloroform			<1.0		ug/L		1	26-APR-21
cis-1,2-Dichloroethylene			<0.50		ug/L		0.5	26-APR-21
cis-1,3-Dichloropropene			<0.30		ug/L		0.3	26-APR-21
Dibromochloromethane			<2.0		ug/L		2	26-APR-21
Dichlorodifluoromethane			<2.0		ug/L		2	26-APR-21
Ethylbenzene			<0.50		ug/L		0.5	26-APR-21
n-Hexane			<0.50		ug/L		0.5	26-APR-21
m+p-Xylenes			<0.40		ug/L		0.4	26-APR-21
Methyl Ethyl Ketone			<20		ug/L		20	26-APR-21
Methyl Isobutyl Ketone			<20		ug/L		20	26-APR-21
Methylene Chloride			<5.0		ug/L		5	26-APR-21
MTBE			<2.0		ug/L		2	26-APR-21
o-Xylene			<0.30		ug/L		0.3	26-APR-21
Styrene			<0.50		ug/L		0.5	26-APR-21
Tetrachloroethylene			<0.50		ug/L		0.5	26-APR-21
Toluene			<0.50		ug/L		0.5	26-APR-21
trans-1,2-Dichloroethylene			<0.50		ug/L		0.5	26-APR-21
trans-1,3-Dichloropropene			<0.30		ug/L		0.3	26-APR-21
Trichloroethylene			<0.50		ug/L		0.5	26-APR-21
Trichlorofluoromethane			<5.0		ug/L		5	26-APR-21
Vinyl chloride			<0.50		ug/L		0.5	26-APR-21
Surrogate: 1,4-Difluorobenzene			97.6		%		70-130	26-APR-21
Surrogate: 4-Bromofluorobenzene			84.4		%		70-130	26-APR-21
WG3523782-5 MS		WG3523782-3						
1,1,1,2-Tetrachloroethane			88.5		%		50-140	26-APR-21
1,1,1,2,2-Tetrachloroethane			58.8		%		50-140	26-APR-21
1,1,1-Trichloroethane			90.7		%		50-140	26-APR-21
1,1,2-Trichloroethane			88.6		%		50-140	26-APR-21
1,1-Dichloroethane			97.0		%		50-140	26-APR-21
1,1-Dichloroethylene			99.5		%		50-140	26-APR-21
1,2-Dibromoethane			85.0		%		50-140	26-APR-21
1,2-Dichlorobenzene			96.6		%		50-140	26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 16 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5441142							
WG3523782-5 MS		WG3523782-3						
1,2-Dichloroethane			93.7		%		50-140	26-APR-21
1,2-Dichloropropane			97.9		%		50-140	26-APR-21
1,3-Dichlorobenzene			111.9		%		50-140	26-APR-21
1,4-Dichlorobenzene			107.2		%		50-140	26-APR-21
Acetone			102.0		%		50-140	26-APR-21
Benzene			93.5		%		50-140	26-APR-21
Bromodichloromethane			97.4		%		50-140	26-APR-21
Bromoform			68.0		%		50-140	26-APR-21
Bromomethane			84.6		%		50-140	26-APR-21
Carbon tetrachloride			93.2		%		50-140	26-APR-21
Chlorobenzene			94.8		%		50-140	26-APR-21
Chloroform			96.4		%		50-140	26-APR-21
cis-1,2-Dichloroethylene			93.7		%		50-140	26-APR-21
cis-1,3-Dichloropropene			93.5		%		50-140	26-APR-21
Dibromochloromethane			80.1		%		50-140	26-APR-21
Dichlorodifluoromethane			74.3		%		50-140	26-APR-21
Ethylbenzene			98.8		%		50-140	26-APR-21
n-Hexane			99.4		%		50-140	26-APR-21
m+p-Xylenes			98.6		%		50-140	26-APR-21
Methyl Ethyl Ketone			84.7		%		50-140	26-APR-21
Methyl Isobutyl Ketone			84.9		%		50-140	26-APR-21
Methylene Chloride			98.6		%		50-140	26-APR-21
MTBE			95.8		%		50-140	26-APR-21
o-Xylene			103.3		%		50-140	26-APR-21
Styrene			90.0		%		50-140	26-APR-21
Tetrachloroethylene			88.7		%		50-140	26-APR-21
Toluene			99.3		%		50-140	26-APR-21
trans-1,2-Dichloroethylene			103.5		%		50-140	26-APR-21
trans-1,3-Dichloropropene			95.7		%		50-140	26-APR-21
Trichloroethylene			89.5		%		50-140	26-APR-21
Trichlorofluoromethane			93.4		%		50-140	26-APR-21
Vinyl chloride			96.8		%		50-140	26-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 17 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5442254							
WG3524797-4	DUP	WG3524797-3						
1,1,1,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,1,2,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,1,1-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,1,2-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,1-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,1-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,2-Dibromoethane		<0.20	<0.20	RPD-NA	ug/L	N/A	30	28-APR-21
1,2-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,2-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,2-Dichloropropane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,3-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
1,4-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
Acetone		<30	<30	RPD-NA	ug/L	N/A	30	28-APR-21
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
Bromodichloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	28-APR-21
Bromoform		<5.0	<5.0	RPD-NA	ug/L	N/A	30	28-APR-21
Bromomethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
Carbon tetrachloride		<0.20	<0.20	RPD-NA	ug/L	N/A	30	28-APR-21
Chlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
Chloroform		<1.0	<1.0	RPD-NA	ug/L	N/A	30	28-APR-21
cis-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
cis-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	28-APR-21
Dibromochloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	28-APR-21
Dichlorodifluoromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	28-APR-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
n-Hexane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	28-APR-21
Methyl Ethyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	28-APR-21
Methyl Isobutyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	28-APR-21
Methylene Chloride		<5.0	<5.0	RPD-NA	ug/L	N/A	30	28-APR-21
MTBE		<2.0	<2.0	RPD-NA	ug/L	N/A	30	28-APR-21
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	28-APR-21
Styrene		<0.50	<0.50		ug/L			28-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 18 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5442254							
WG3524797-4	DUP	WG3524797-3						
Styrene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
Tetrachloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
trans-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
trans-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	28-APR-21
Trichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	28-APR-21
Trichlorofluoromethane		<5.0	<5.0	RPD-NA	ug/L	N/A	30	28-APR-21
Vinyl chloride		0.50	0.56		ug/L	11	30	28-APR-21
WG3524797-1	LCS							
1,1,1,2-Tetrachloroethane			104.9		%		70-130	28-APR-21
1,1,1,2-Tetrachloroethane			120.0		%		70-130	28-APR-21
1,1,1-Trichloroethane			99.6		%		70-130	28-APR-21
1,1,2-Trichloroethane			105.8		%		70-130	28-APR-21
1,1-Dichloroethane			98.5		%		70-130	28-APR-21
1,1-Dichloroethylene			98.5		%		70-130	28-APR-21
1,2-Dibromoethane			105.3		%		70-130	28-APR-21
1,2-Dichlorobenzene			106.2		%		70-130	28-APR-21
1,2-Dichloroethane			110.1		%		70-130	28-APR-21
1,2-Dichloropropane			103.8		%		70-130	28-APR-21
1,3-Dichlorobenzene			98.1		%		70-130	28-APR-21
1,4-Dichlorobenzene			97.2		%		70-130	28-APR-21
Acetone			114.8		%		60-140	28-APR-21
Benzene			96.3		%		70-130	28-APR-21
Bromodichloromethane			107.5		%		70-130	28-APR-21
Bromoform			106.5		%		70-130	28-APR-21
Bromomethane			97.5		%		60-140	28-APR-21
Carbon tetrachloride			100.9		%		70-130	28-APR-21
Chlorobenzene			106.0		%		70-130	28-APR-21
Chloroform			104.0		%		70-130	28-APR-21
cis-1,2-Dichloroethylene			104.0		%		70-130	28-APR-21
cis-1,3-Dichloropropene			99.0		%		70-130	28-APR-21
Dibromochloromethane			101.4		%		70-130	28-APR-21
Dichlorodifluoromethane			85.3		%		50-140	28-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 19 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5442254							
WG3524797-1	LCS							
Ethylbenzene			99.8		%		70-130	28-APR-21
n-Hexane			94.9		%		70-130	28-APR-21
m+p-Xylenes			100.1		%		70-130	28-APR-21
Methyl Ethyl Ketone			114.4		%		60-140	28-APR-21
Methyl Isobutyl Ketone			101.2		%		60-140	28-APR-21
Methylene Chloride			102.3		%		70-130	28-APR-21
MTBE			101.3		%		70-130	28-APR-21
o-Xylene			110.8		%		70-130	28-APR-21
Styrene			103.7		%		70-130	28-APR-21
Tetrachloroethylene			97.8		%		70-130	28-APR-21
Toluene			97.7		%		70-130	28-APR-21
trans-1,2-Dichloroethylene			97.9		%		70-130	28-APR-21
trans-1,3-Dichloropropene			104.4		%		70-130	28-APR-21
Trichloroethylene			106.5		%		70-130	28-APR-21
Trichlorofluoromethane			100.7		%		60-140	28-APR-21
Vinyl chloride			108.4		%		60-140	28-APR-21
WG3524797-2	MB							
1,1,1,2-Tetrachloroethane			<0.50		ug/L		0.5	28-APR-21
1,1,2,2-Tetrachloroethane			<0.50		ug/L		0.5	28-APR-21
1,1,1-Trichloroethane			<0.50		ug/L		0.5	28-APR-21
1,1,2-Trichloroethane			<0.50		ug/L		0.5	28-APR-21
1,1-Dichloroethane			<0.50		ug/L		0.5	28-APR-21
1,1-Dichloroethylene			<0.50		ug/L		0.5	28-APR-21
1,2-Dibromoethane			<0.20		ug/L		0.2	28-APR-21
1,2-Dichlorobenzene			<0.50		ug/L		0.5	28-APR-21
1,2-Dichloroethane			<0.50		ug/L		0.5	28-APR-21
1,2-Dichloropropane			<0.50		ug/L		0.5	28-APR-21
1,3-Dichlorobenzene			<0.50		ug/L		0.5	28-APR-21
1,4-Dichlorobenzene			<0.50		ug/L		0.5	28-APR-21
Acetone			<30		ug/L		30	28-APR-21
Benzene			<0.50		ug/L		0.5	28-APR-21
Bromodichloromethane			<2.0		ug/L		2	28-APR-21
Bromoform			<5.0		ug/L		5	28-APR-21
Bromomethane			<0.50		ug/L		0.5	28-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 20 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5442254							
WG3524797-2 MB								
Carbon tetrachloride			<0.20		ug/L		0.2	28-APR-21
Chlorobenzene			<0.50		ug/L		0.5	28-APR-21
Chloroform			<1.0		ug/L		1	28-APR-21
cis-1,2-Dichloroethylene			<0.50		ug/L		0.5	28-APR-21
cis-1,3-Dichloropropene			<0.30		ug/L		0.3	28-APR-21
Dibromochloromethane			<2.0		ug/L		2	28-APR-21
Dichlorodifluoromethane			<2.0		ug/L		2	28-APR-21
Ethylbenzene			<0.50		ug/L		0.5	28-APR-21
n-Hexane			<0.50		ug/L		0.5	28-APR-21
m+p-Xylenes			<0.40		ug/L		0.4	28-APR-21
Methyl Ethyl Ketone			<20		ug/L		20	28-APR-21
Methyl Isobutyl Ketone			<20		ug/L		20	28-APR-21
Methylene Chloride			<5.0		ug/L		5	28-APR-21
MTBE			<2.0		ug/L		2	28-APR-21
o-Xylene			<0.30		ug/L		0.3	28-APR-21
Styrene			<0.50		ug/L		0.5	28-APR-21
Tetrachloroethylene			<0.50		ug/L		0.5	28-APR-21
Toluene			<0.50		ug/L		0.5	28-APR-21
trans-1,2-Dichloroethylene			<0.50		ug/L		0.5	28-APR-21
trans-1,3-Dichloropropene			<0.30		ug/L		0.3	28-APR-21
Trichloroethylene			<0.50		ug/L		0.5	28-APR-21
Trichlorofluoromethane			<5.0		ug/L		5	28-APR-21
Vinyl chloride			<0.50		ug/L		0.5	28-APR-21
Surrogate: 1,4-Difluorobenzene			99.7		%		70-130	28-APR-21
Surrogate: 4-Bromofluorobenzene			100.9		%		70-130	28-APR-21
WG3524797-5 MS		WG3524797-3						
1,1,1,2-Tetrachloroethane			90.6		%		50-140	28-APR-21
1,1,2,2-Tetrachloroethane			98.6		%		50-140	28-APR-21
1,1,1-Trichloroethane			84.9		%		50-140	28-APR-21
1,1,2-Trichloroethane			92.5		%		50-140	28-APR-21
1,1-Dichloroethane			85.4		%		50-140	28-APR-21
1,1-Dichloroethylene			81.3		%		50-140	28-APR-21
1,2-Dibromoethane			91.7		%		50-140	28-APR-21
1,2-Dichlorobenzene			95.3		%		50-140	28-APR-21



Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Page 21 of 22

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Contact: KEITH CLARK

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	Water							
Batch	R5442254							
WG3524797-5 MS		WG3524797-3						
1,2-Dichloroethane			90.7		%		50-140	28-APR-21
1,2-Dichloropropane			89.0		%		50-140	28-APR-21
1,3-Dichlorobenzene			86.8		%		50-140	28-APR-21
1,4-Dichlorobenzene			83.8		%		50-140	28-APR-21
Acetone			89.6		%		50-140	28-APR-21
Benzene			82.0		%		50-140	28-APR-21
Bromodichloromethane			89.4		%		50-140	28-APR-21
Bromoform			83.3		%		50-140	28-APR-21
Bromomethane			79.8		%		50-140	28-APR-21
Carbon tetrachloride			85.2		%		50-140	28-APR-21
Chlorobenzene			88.7		%		50-140	28-APR-21
Chloroform			88.1		%		50-140	28-APR-21
cis-1,2-Dichloroethylene			87.9		%		50-140	28-APR-21
cis-1,3-Dichloropropene			82.1		%		50-140	28-APR-21
Dibromochloromethane			87.9		%		50-140	28-APR-21
Dichlorodifluoromethane			74.2		%		50-140	28-APR-21
Ethylbenzene			87.3		%		50-140	28-APR-21
n-Hexane			70.5		%		50-140	28-APR-21
m+p-Xylenes			84.5		%		50-140	28-APR-21
Methyl Ethyl Ketone			101.1		%		50-140	28-APR-21
Methyl Isobutyl Ketone			80.2		%		50-140	28-APR-21
Methylene Chloride			72.5		%		50-140	28-APR-21
MTBE			91.7		%		50-140	28-APR-21
o-Xylene			96.8		%		50-140	28-APR-21
Styrene			87.8		%		50-140	28-APR-21
Tetrachloroethylene			86.6		%		50-140	28-APR-21
Toluene			84.1		%		50-140	28-APR-21
trans-1,2-Dichloroethylene			71.0		%		50-140	28-APR-21
trans-1,3-Dichloropropene			93.9		%		50-140	28-APR-21
Trichloroethylene			89.0		%		50-140	28-APR-21
Trichlorofluoromethane			79.5		%		50-140	28-APR-21
Vinyl chloride			90.5		%		50-140	28-APR-21

Quality Control Report

Workorder: L2579308

Report Date: 28-APR-21

Client: DS Consultants (Vaughan)
6221 Highway 7 Unit 16
Vaughan ON L4H 0K8

Page 22 of 22

Contact: KEITH CLARK

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.
SURQC	Surrogate recovery marginally exceeded DQO in QC sample (MB, LCS, RM, or MS). Surrogates are less important for QC samples than for test samples. Refer to regular (non-surrogate) analyte results in affected QC sample for assessment of potential impacts to those analytes.

Hold Time Exceedances:

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

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

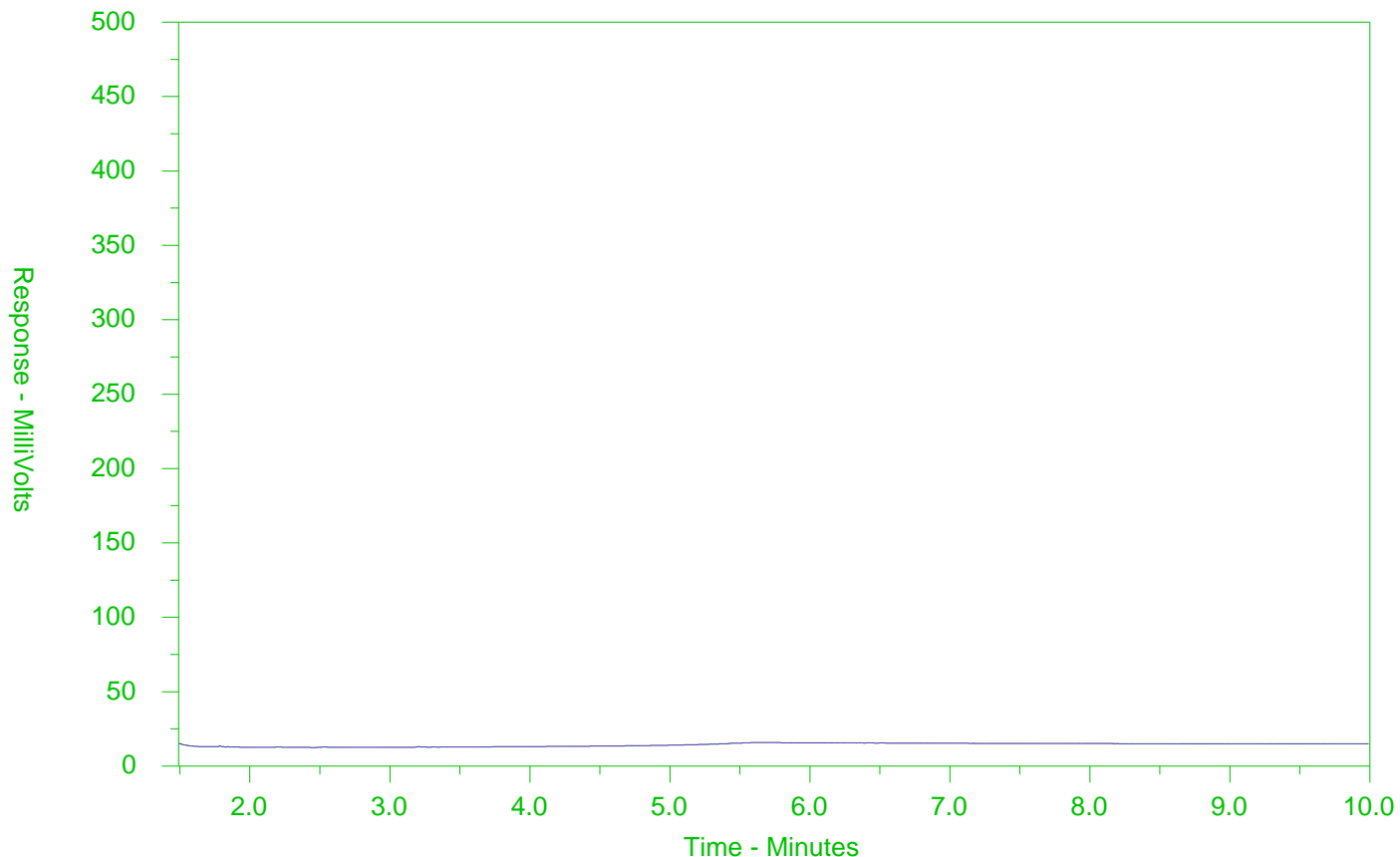
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2579308-1
 Client Sample ID: MW21-1



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

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

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

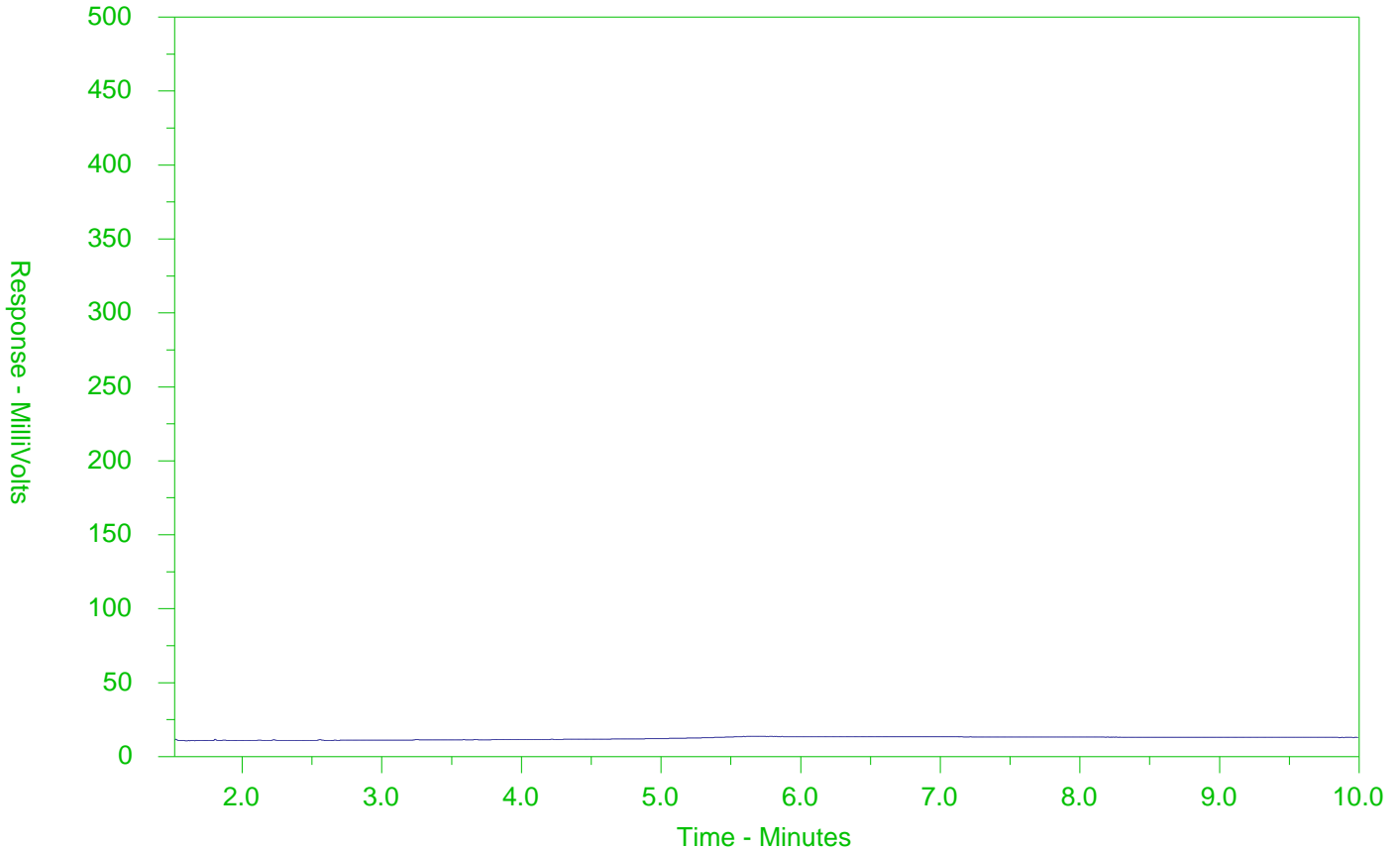
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2579308-2
 Client Sample ID: MW20-24



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

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

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

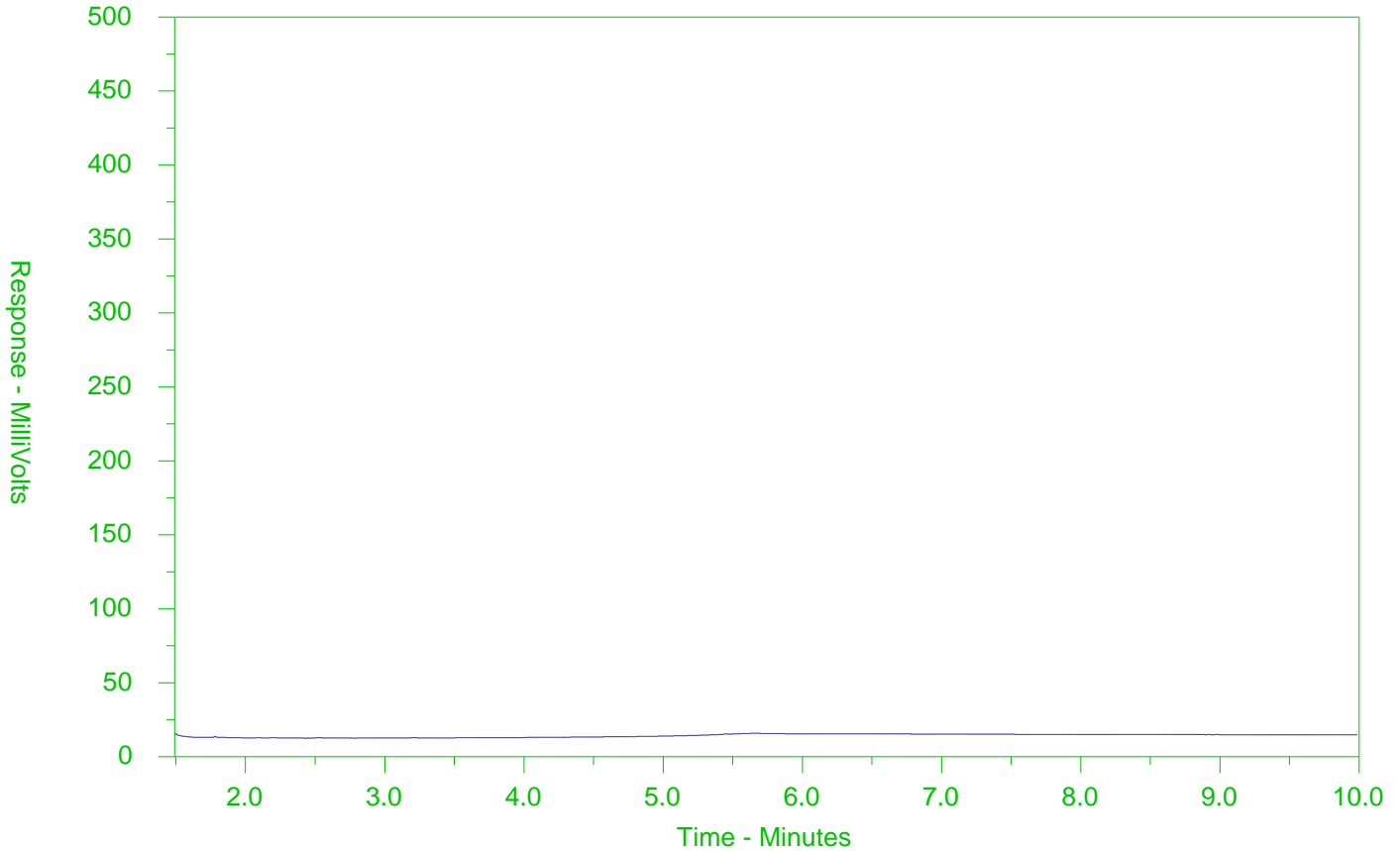
Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2579308-3
 Client Sample ID: MW10



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

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

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

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

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



www.alsglobal.com

Chain of C



L2579308-COFC

COC Number: 20-894372

Page of

Report To Contact and company name below will appear on the final report		Reports / Recipients			Turnaround Time (TAT) Requested					AFFIX ALS BARCODE LABEL HERE (ALS use only)					
Company:	OS Consultants	Select Report Format:	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input checked="" type="checkbox"/> EDD (DIGITAL)	<input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply											
Contact:	Keith Clark	Merge QC/QCI Reports with COA	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum											
Phone:	519 463 7015	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked		<input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum											
Company address below will appear on the final report		Select Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	<input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum											
Street:	6221 Hwy 7, unit 16	Email 1 or Fax	Keith Clark @ osconsultants.ca	<input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum											
City/Province:	Vancouver ON	Email 2		<input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests											
Postal Code:	V4H 0K8	Email 3		Date and Time Required for all E&P TATs:											
Invoice To	Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Invoice Recipients			For all tests with rush TATs requested, please contact your AM to confirm availability.										
Company:	OS Consultants	Select Invoice Distribution:	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX	Analysis Request											
Contact:	Keith Clark	Email 1 or Fax		Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below											
Project Information		Oil and Gas Required Fields (client use)			NUMBER OF CONTAINERS						SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)		
ALS Account # / Quote #		AFE/Cost Center:	PO#												
Job #:	21-129-300	Major/Minor Code:	Routing Code:												
PO / AFE:	NO	Requisitioner:													
LSD:		Location:													
ALS Lab Work Order # (ALS use only):	L0579308	ALS Contact:		Sampler:											
ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	Metal & Trace Metals	PAH	PHC / WC	Mercury	Chromium VI						
	MW21-1	21 APR 21		GW	X	X	X	X	X						
	MW20-24	21 APR 21		GW	X	X	X	X	X						
	MW10	21 APR 21		GW	X	X	X	X	X						
Drinking Water (DW) Samples¹ (client use)		Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)			SAMPLE RECEIPT DETAILS (ALS use only)										
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED										
Are samples for human consumption/ use? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO										
					Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A										
					INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C						
					19°C				1.9						
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)										
Released by:	Brandon Williams	Date:	21 APR 2021	Time:	Received by:	Date:	21 APR 2021	Time:	Received by:	Date:	21 APR 2021	Time:			

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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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 white - report copy.

1. If no water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.

STF



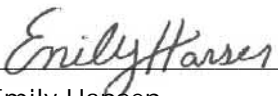
DS Consultants (Cambridge)
ATTN: KEITH CLARKE
380 Jamieson Parkway
Unit 6
Cambridge ON N3C 4N4

Date Received: 03-MAY-21
Report Date: 13-MAY-21 10:45 (MT)
Version: FINAL

Client Phone: 519-260-9393

Certificate of Analysis

Lab Work Order #: L2582823
Project P.O. #: NOT SUBMITTED
Job Reference: 21-129-300
C of C Numbers: 20-894436
Legal Site Desc:



Emily Hansen
Account Manager

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ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2582823-1	MW21-11								
Sampled By: BHOOMI on 03-MAY-21									
Matrix: WATER									
Physical Tests									
	Conductivity	0.539		0.0030	mS/cm	06-MAY-21			
	pH	7.73		0.10	pH units	06-MAY-21			
Anions and Nutrients									
	Chloride (Cl)	3.40		0.50	mg/L	06-MAY-21	790	790	790
Cyanides									
	Cyanide, Weak Acid Diss	<2.0		2.0	ug/L	04-MAY-21	5	66	66
Dissolved Metals									
	Dissolved Mercury Filtration Location	FIELD			No Unit	05-MAY-21			
	Dissolved Metals Filtration Location	FIELD			No Unit	04-MAY-21			
	Antimony (Sb)-Dissolved	<0.10		0.10	ug/L	05-MAY-21	1.5	6	6
	Arsenic (As)-Dissolved	0.27		0.10	ug/L	05-MAY-21	13	25	25
	Barium (Ba)-Dissolved	31.9		0.10	ug/L	05-MAY-21	610	1000	1000
	Beryllium (Be)-Dissolved	<0.10		0.10	ug/L	05-MAY-21	0.5	4	4
	Boron (B)-Dissolved	13		10	ug/L	05-MAY-21	1700	5000	5000
	Cadmium (Cd)-Dissolved	0.019		0.010	ug/L	05-MAY-21	0.5	2.7	2.7
	Chromium (Cr)-Dissolved	0.53		0.50	ug/L	05-MAY-21	11	50	50
	Cobalt (Co)-Dissolved	0.43		0.10	ug/L	05-MAY-21	3.8	3.8	3.8
	Copper (Cu)-Dissolved	0.66		0.20	ug/L	05-MAY-21	5	87	87
	Lead (Pb)-Dissolved	0.389		0.050	ug/L	05-MAY-21	1.9	10	10
	Mercury (Hg)-Dissolved	<0.0050		0.0050	ug/L	06-MAY-21	0.1	0.29	1
	Molybdenum (Mo)-Dissolved	0.874		0.050	ug/L	05-MAY-21	23	70	70
	Nickel (Ni)-Dissolved	0.68		0.50	ug/L	05-MAY-21	14	100	100
	Selenium (Se)-Dissolved	0.234		0.050	ug/L	05-MAY-21	5	10	10
	Silver (Ag)-Dissolved	<0.050		0.050	ug/L	05-MAY-21	0.3	1.5	1.5
	Sodium (Na)-Dissolved	2060		500	ug/L	05-MAY-21	490000	490000	490000
	Thallium (Tl)-Dissolved	0.011		0.010	ug/L	05-MAY-21	0.5	2	2
	Uranium (U)-Dissolved	0.322		0.010	ug/L	05-MAY-21	8.9	20	20
	Vanadium (V)-Dissolved	<0.50		0.50	ug/L	05-MAY-21	3.9	6.2	6.2
	Zinc (Zn)-Dissolved	4.2		1.0	ug/L	05-MAY-21	160	1100	1100
Speciated Metals									
	Chromium, Hexavalent	<0.50		0.50	ug/L	04-MAY-21	25	25	25
Volatile Organic Compounds									
	Acetone	<30	OWP	30	ug/L	11-MAY-21	2700	2700	2700
	Benzene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	5	5
	Bromodichloromethane	<2.0	OWP	2.0	ug/L	11-MAY-21	2	16	16
	Bromoform	<5.0	OWP	5.0	ug/L	11-MAY-21	5	25	25
	Bromomethane	<0.50	OWP	0.50	ug/L	11-MAY-21	0.89	0.89	0.89
	Carbon tetrachloride	<0.20	OWP	0.20	ug/L	11-MAY-21	0.2	0.79	5
	Chlorobenzene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	30	30
	Dibromochloromethane	<2.0	OWP	2.0	ug/L	11-MAY-21	2	25	25
	Chloroform	<1.0	OWP	1.0	ug/L	11-MAY-21	2	2.4	22
	1,2-Dibromoethane	<0.20	OWP	0.20	ug/L	11-MAY-21	0.2	0.2	0.2
	1,2-Dichlorobenzene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	3	3
	1,3-Dichlorobenzene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	59	59
	1,4-Dichlorobenzene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	1	1

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-WATER

#1: T1-Ground Water-All Types of Property Uses

#2: T2-Ground Water (Coarse Soil)-All Types of Property Use

#3: T2-Ground Water (Fine Soil)-All Types of Property Use



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2582823-1	MW21-11								
Sampled By: BHOOMI on 03-MAY-21									
Matrix: WATER									
Volatile Organic Compounds									
	Dichlorodifluoromethane	<2.0	OWP	2.0	ug/L	11-MAY-21	590	590	590
	1,1-Dichloroethane	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	5	5
	1,2-Dichloroethane	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	1.6	5
	1,1-Dichloroethylene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	1.6	14
	cis-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L	11-MAY-21	1.6	1.6	17
	trans-1,2-Dichloroethylene	<0.50	OWP	0.50	ug/L	11-MAY-21	1.6	1.6	17
	Methylene Chloride	<5.0	OWP	5.0	ug/L	11-MAY-21	5	50	50
	1,2-Dichloropropane	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	5	5
	cis-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L	11-MAY-21			
	trans-1,3-Dichloropropene	<0.30	OWP	0.30	ug/L	11-MAY-21			
	1,3-Dichloropropene (cis & trans)	<0.50		0.50	ug/L	11-MAY-21	0.5	0.5	0.5
	Ethylbenzene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	2.4	2.4
	n-Hexane	<0.50	OWP	0.50	ug/L	11-MAY-21	5	51	520
	Methyl Ethyl Ketone	<20	OWP	20	ug/L	11-MAY-21	400	1800	1800
	Methyl Isobutyl Ketone	<20	OWP	20	ug/L	11-MAY-21	640	640	640
	MTBE	<2.0	OWP	2.0	ug/L	11-MAY-21	15	15	15
	Styrene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	5.4	5.4
	1,1,1,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L	11-MAY-21	1.1	1.1	1.1
	1,1,2,2-Tetrachloroethane	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	1	1
	Tetrachloroethylene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	1.6	17
	Toluene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.8	24	24
	1,1,1-Trichloroethane	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	200	200
	1,1,2-Trichloroethane	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	4.7	5
	Trichloroethylene	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	1.6	5
	Trichlorofluoromethane	<5.0	OWP	5.0	ug/L	11-MAY-21	150	150	150
	Vinyl chloride	<0.50	OWP	0.50	ug/L	11-MAY-21	0.5	0.5	1.7
	o-Xylene	<0.30	OWP	0.30	ug/L	11-MAY-21			
	m+p-Xylenes	<0.40	OWP	0.40	ug/L	11-MAY-21			
	Xylenes (Total)	<0.50		0.50	ug/L	11-MAY-21	72	300	300
	Surrogate: 4-Bromofluorobenzene	110.8		70-130	%	11-MAY-21			
	Surrogate: 1,4-Difluorobenzene	99.6		70-130	%	11-MAY-21			
Hydrocarbons									
	F1 (C6-C10)	<25	OWP	25	ug/L	11-MAY-21	420	750	750
	F1-BTEX	<25		25	ug/L	13-MAY-21	420	750	750
	F2 (C10-C16)	<100		100	ug/L	06-MAY-21	150	150	150
	F2-Naphth	<100		100	ug/L	13-MAY-21			
	F3 (C16-C34)	<250		250	ug/L	06-MAY-21	500	500	500
	F3-PAH	<250		250	ug/L	13-MAY-21			
	F4 (C34-C50)	<250		250	ug/L	06-MAY-21	500	500	500
	Total Hydrocarbons (C6-C50)	<370		370	ug/L	13-MAY-21			
	Chrom. to baseline at nC50	YES			No Unit	06-MAY-21			
	Surrogate: 2-Bromobenzotrifluoride	96.1		60-140	%	06-MAY-21			
	Surrogate: 3,4-Dichlorotoluene	95.6		60-140	%	11-MAY-21			
Polycyclic Aromatic Hydrocarbons									
	Acenaphthene	<0.020		0.020	ug/L	13-MAY-21	4.1	4.1	4.1
	Acenaphthylene	<0.020		0.020	ug/L	13-MAY-21	1	1	1

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-WATER

#1: T1-Ground Water-All Types of Property Uses

#2: T2-Ground Water (Coarse Soil)-All Types of Property Use

#3: T2-Ground Water (Fine Soil)-All Types of Property Use



ANALYTICAL GUIDELINE REPORT

21-129-300

Table with columns: Sample Details Grouping, Analyte, Result, Qualifier, D.L., Units, Analyzed, Guideline Limits #1, #2, #3. Contains data for Polycyclic Aromatic Hydrocarbons and Volatile Organic Compounds.

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

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Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-WATER

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#2: T2-Ground Water (Coarse Soil)-All Types of Property Use

#3: T2-Ground Water (Fine Soil)-All Types of Property Use



ANALYTICAL GUIDELINE REPORT

21-129-300

Sample Details		Result	Qualifier	D.L.	Units	Analyzed	Guideline Limits		
Grouping	Analyte						#1	#2	#3
L2582823-2	TRIP BLANK								
Sampled By: BHOOMI on 03-MAY-21									
Matrix: WATER									
Volatile Organic Compounds									
	trans-1,3-Dichloropropene	<0.30		0.30	ug/L	11-MAY-21			
	1,3-Dichloropropene (cis & trans)	<0.50		0.50	ug/L	11-MAY-21	0.5	0.5	0.5
	Ethylbenzene	<0.50		0.50	ug/L	11-MAY-21	0.5	2.4	2.4
	n-Hexane	<0.50		0.50	ug/L	11-MAY-21	5	51	520
	Methyl Ethyl Ketone	<20		20	ug/L	11-MAY-21	400	1800	1800
	Methyl Isobutyl Ketone	<20		20	ug/L	11-MAY-21	640	640	640
	MTBE	<2.0		2.0	ug/L	11-MAY-21	15	15	15
	Styrene	<0.50		0.50	ug/L	11-MAY-21	0.5	5.4	5.4
	1,1,1,2-Tetrachloroethane	<0.50		0.50	ug/L	11-MAY-21	1.1	1.1	1.1
	1,1,2,2-Tetrachloroethane	<0.50		0.50	ug/L	11-MAY-21	0.5	1	1
	Tetrachloroethylene	<0.50		0.50	ug/L	11-MAY-21	0.5	1.6	17
	Toluene	<0.50		0.50	ug/L	11-MAY-21	0.8	24	24
	1,1,1-Trichloroethane	<0.50		0.50	ug/L	11-MAY-21	0.5	200	200
	1,1,2-Trichloroethane	<0.50		0.50	ug/L	11-MAY-21	0.5	4.7	5
	Trichloroethylene	<0.50		0.50	ug/L	11-MAY-21	0.5	1.6	5
	Trichlorofluoromethane	<5.0		5.0	ug/L	11-MAY-21	150	150	150
	Vinyl chloride	<0.50		0.50	ug/L	11-MAY-21	0.5	0.5	1.7
	o-Xylene	<0.30		0.30	ug/L	11-MAY-21			
	m+p-Xylenes	<0.40		0.40	ug/L	11-MAY-21			
	Xylenes (Total)	<0.50		0.50	ug/L	11-MAY-21	72	300	300
	Surrogate: 4-Bromofluorobenzene	97.4		70-130	%	11-MAY-21			
	Surrogate: 1,4-Difluorobenzene	100.7		70-130	%	11-MAY-21			

** Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.

* Analytical result for this parameter exceeds Guideline Limit listed on this report. Guideline Limits applied:

Ontario Regulation 153/04 - April 15, 2011 Standards = [Suite] - ON-511-T1/T2-WATER

#1: T1-Ground Water-All Types of Property Uses

#2: T2-Ground Water (Coarse Soil)-All Types of Property Use

#3: T2-Ground Water (Fine Soil)-All Types of Property Use

Reference Information

Sample Parameter Qualifier key listed:

Qualifier	Description
OWP	Organic water sample contained visible sediment (must be included as part of analysis). Measured concentrations of organic substances in water can be biased high due to presence of sediment.

Methods Listed (if applicable):

ALS Test 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
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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 2011)	EPA 7199
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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 2011)	APHA 2510 B
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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 Only)	APHA 2510
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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 Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-L
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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
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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).

Reference Information

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(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 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:

20-894436

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		

Reference Information

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.

mg/kg - milligrams per kilogram based on dry weight of sample

mg/kg wwt - milligrams per kilogram based on wet weight of sample

mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight

mg/L - unit of concentration based on volume, parts per million.

< - Less than.

D.L. - The reporting limit.

N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

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



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 1 of 17

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
CL-IC-N-WT		Water						
Batch	R5454537							
WG3530512-4	DUP	WG3530512-3						
Chloride (Cl)		17.4	17.2		mg/L	1.1	20	06-MAY-21
WG3530512-2	LCS							
Chloride (Cl)			100.2		%		90-110	06-MAY-21
WG3530512-1	MB							
Chloride (Cl)			<0.50		mg/L		0.5	06-MAY-21
WG3530512-5	MS	WG3530512-3						
Chloride (Cl)			99.2		%		75-125	06-MAY-21
CN-WAD-R511-WT		Water						
Batch	R5449921							
WG3528810-3	DUP	WG3528810-5						
Cyanide, Weak Acid Diss		<2.0	<2.0	RPD-NA	ug/L	N/A	20	04-MAY-21
WG3528810-2	LCS							
Cyanide, Weak Acid Diss			102.0		%		80-120	04-MAY-21
WG3528810-1	MB							
Cyanide, Weak Acid Diss			<2.0		ug/L		2	04-MAY-21
WG3528810-4	MS	WG3528810-5						
Cyanide, Weak Acid Diss			104.2		%		75-125	04-MAY-21
CR-CR6-IC-R511-WT		Water						
Batch	R5449317							
WG3528760-4	DUP	WG3528760-3						
Chromium, Hexavalent		0.92	0.89		ug/L	3.8	20	04-MAY-21
WG3528760-2	LCS							
Chromium, Hexavalent			101.5		%		80-120	04-MAY-21
WG3528760-1	MB							
Chromium, Hexavalent			<0.50		ug/L		0.5	04-MAY-21
WG3528760-5	MS	WG3528760-3						
Chromium, Hexavalent			103.7		%		70-130	04-MAY-21
EC-R511-WT		Water						
Batch	R5455110							
WG3530200-4	DUP	WG3530200-3						
Conductivity		0.841	0.845		mS/cm	0.5	10	06-MAY-21
WG3530200-2	LCS							
Conductivity			101.9		%		90-110	06-MAY-21
WG3530200-1	MB							
Conductivity			<0.0030		mS/cm		0.003	06-MAY-21
F1-HS-511-WT		Water						



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 2 of 17

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT		Water						
Batch	R5455351							
WG3531645-4	DUP	WG3531645-3						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	11-MAY-21
WG3531645-1	LCS							
F1 (C6-C10)			105.6		%		80-120	10-MAY-21
WG3531645-2	MB							
F1 (C6-C10)			<25		ug/L		25	10-MAY-21
Surrogate: 3,4-Dichlorotoluene			114.1		%		60-140	10-MAY-21
WG3531645-5	MS	WG3531645-3						
F1 (C6-C10)			79.0		%		60-140	11-MAY-21
F2-F4-511-WT		Water						
Batch	R5453276							
WG3528819-2	LCS							
F2 (C10-C16)			99.5		%		70-130	06-MAY-21
F3 (C16-C34)			100.8		%		70-130	06-MAY-21
F4 (C34-C50)			98.5		%		70-130	06-MAY-21
WG3528819-1	MB							
F2 (C10-C16)			<100		ug/L		100	06-MAY-21
F3 (C16-C34)			<250		ug/L		250	06-MAY-21
F4 (C34-C50)			<250		ug/L		250	06-MAY-21
Surrogate: 2-Bromobenzotrifluoride			86.5		%		60-140	06-MAY-21
HG-D-UG/L-CVAA-WT		Water						
Batch	R5452461							
WG3529752-4	DUP	WG3529752-3						
Mercury (Hg)-Dissolved		<0.0050	<0.0050	RPD-NA	ug/L	N/A	20	06-MAY-21
WG3529752-2	LCS							
Mercury (Hg)-Dissolved			95.4		%		80-120	06-MAY-21
WG3529752-1	MB							
Mercury (Hg)-Dissolved			<0.0050		ug/L		0.005	06-MAY-21
WG3529752-6	MS	WG3529752-5						
Mercury (Hg)-Dissolved			100.5		%		70-130	06-MAY-21
MET-D-UG/L-MS-WT		Water						
Batch	R5448979							
WG3528382-4	DUP	WG3528382-3						
Antimony (Sb)-Dissolved		0.21	0.21		ug/L	0.9	20	04-MAY-21
Arsenic (As)-Dissolved		0.92	0.91		ug/L	1.1	20	04-MAY-21
Barium (Ba)-Dissolved		66.0	67.7		ug/L	2.6	20	04-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 3 of 17

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT								
	Water							
Batch	R5448979							
WG3528382-4	DUP	WG3528382-3						
Beryllium (Be)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	04-MAY-21
Boron (B)-Dissolved		78	77		ug/L	0.6	20	04-MAY-21
Cadmium (Cd)-Dissolved		0.0834	0.0802		ug/L	3.9	20	04-MAY-21
Chromium (Cr)-Dissolved		0.61	0.56		ug/L	8.7	20	04-MAY-21
Cobalt (Co)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	04-MAY-21
Copper (Cu)-Dissolved		4.43	4.45		ug/L	0.4	20	04-MAY-21
Lead (Pb)-Dissolved		0.177	0.179		ug/L	1.1	20	04-MAY-21
Molybdenum (Mo)-Dissolved		2.15	2.13		ug/L	1.3	20	04-MAY-21
Nickel (Ni)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	04-MAY-21
Selenium (Se)-Dissolved		0.447	0.437		ug/L	2.1	20	04-MAY-21
Silver (Ag)-Dissolved		<0.050	<0.050	RPD-NA	ug/L	N/A	20	04-MAY-21
Sodium (Na)-Dissolved		39900	39000		ug/L	2.5	20	04-MAY-21
Thallium (Tl)-Dissolved		<0.010	<0.010	RPD-NA	ug/L	N/A	20	04-MAY-21
Uranium (U)-Dissolved		2.33	2.34		ug/L	0.3	20	04-MAY-21
Vanadium (V)-Dissolved		5.66	5.70		ug/L	0.7	20	04-MAY-21
Zinc (Zn)-Dissolved		44.8	45.2		ug/L	1.0	20	04-MAY-21
WG3528382-2	LCS							
Antimony (Sb)-Dissolved			94.6		%		80-120	04-MAY-21
Arsenic (As)-Dissolved			100.8		%		80-120	04-MAY-21
Barium (Ba)-Dissolved			101.4		%		80-120	04-MAY-21
Beryllium (Be)-Dissolved			99.9		%		80-120	04-MAY-21
Boron (B)-Dissolved			101.7		%		80-120	04-MAY-21
Cadmium (Cd)-Dissolved			97.9		%		80-120	04-MAY-21
Chromium (Cr)-Dissolved			97.7		%		80-120	04-MAY-21
Cobalt (Co)-Dissolved			96.5		%		80-120	04-MAY-21
Copper (Cu)-Dissolved			94.1		%		80-120	04-MAY-21
Lead (Pb)-Dissolved			98.0		%		80-120	04-MAY-21
Molybdenum (Mo)-Dissolved			93.5		%		80-120	04-MAY-21
Nickel (Ni)-Dissolved			94.0		%		80-120	04-MAY-21
Selenium (Se)-Dissolved			95.3		%		80-120	04-MAY-21
Silver (Ag)-Dissolved			98.1		%		80-120	04-MAY-21
Sodium (Na)-Dissolved			100.1		%		80-120	04-MAY-21
Thallium (Tl)-Dissolved			96.0		%		80-120	04-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 4 of 17

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT								
	Water							
Batch	R5448979							
WG3528382-2	LCS							
Uranium (U)-Dissolved			96.3		%		80-120	04-MAY-21
Vanadium (V)-Dissolved			102.0		%		80-120	04-MAY-21
Zinc (Zn)-Dissolved			96.5		%		80-120	04-MAY-21
WG3528382-1	MB							
Antimony (Sb)-Dissolved			<0.10		ug/L		0.1	04-MAY-21
Arsenic (As)-Dissolved			<0.10		ug/L		0.1	04-MAY-21
Barium (Ba)-Dissolved			<0.10		ug/L		0.1	04-MAY-21
Beryllium (Be)-Dissolved			<0.10		ug/L		0.1	04-MAY-21
Boron (B)-Dissolved			<10		ug/L		10	04-MAY-21
Cadmium (Cd)-Dissolved			<0.0050		ug/L		0.005	04-MAY-21
Chromium (Cr)-Dissolved			<0.50		ug/L		0.5	04-MAY-21
Cobalt (Co)-Dissolved			<0.10		ug/L		0.1	04-MAY-21
Copper (Cu)-Dissolved			<0.20		ug/L		0.2	04-MAY-21
Lead (Pb)-Dissolved			<0.050		ug/L		0.05	04-MAY-21
Molybdenum (Mo)-Dissolved			<0.050		ug/L		0.05	04-MAY-21
Nickel (Ni)-Dissolved			<0.50		ug/L		0.5	04-MAY-21
Selenium (Se)-Dissolved			<0.050		ug/L		0.05	04-MAY-21
Silver (Ag)-Dissolved			<0.050		ug/L		0.05	04-MAY-21
Sodium (Na)-Dissolved			<50		ug/L		50	04-MAY-21
Thallium (Tl)-Dissolved			<0.010		ug/L		0.01	04-MAY-21
Uranium (U)-Dissolved			<0.010		ug/L		0.01	04-MAY-21
Vanadium (V)-Dissolved			<0.50		ug/L		0.5	04-MAY-21
Zinc (Zn)-Dissolved			<1.0		ug/L		1	04-MAY-21
WG3528382-5	MS	WG3528382-6						
Antimony (Sb)-Dissolved			100.6		%		70-130	04-MAY-21
Arsenic (As)-Dissolved			105.7		%		70-130	04-MAY-21
Barium (Ba)-Dissolved			N/A	MS-B	%		-	04-MAY-21
Beryllium (Be)-Dissolved			104.9		%		70-130	04-MAY-21
Boron (B)-Dissolved			N/A	MS-B	%		-	04-MAY-21
Cadmium (Cd)-Dissolved			96.9		%		70-130	04-MAY-21
Chromium (Cr)-Dissolved			98.3		%		70-130	04-MAY-21
Cobalt (Co)-Dissolved			95.5		%		70-130	04-MAY-21
Copper (Cu)-Dissolved			89.9		%		70-130	04-MAY-21
Lead (Pb)-Dissolved			95.3		%		70-130	04-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 5 of 17

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT								
	Water							
Batch	R5448979							
WG3528382-5 MS		WG3528382-6						
Molybdenum (Mo)-Dissolved			N/A	MS-B	%		-	04-MAY-21
Nickel (Ni)-Dissolved			91.7		%		70-130	04-MAY-21
Selenium (Se)-Dissolved			99.5		%		70-130	04-MAY-21
Silver (Ag)-Dissolved			100.5		%		70-130	04-MAY-21
Sodium (Na)-Dissolved			N/A	MS-B	%		-	04-MAY-21
Thallium (Tl)-Dissolved			95.0		%		70-130	04-MAY-21
Uranium (U)-Dissolved			N/A	MS-B	%		-	04-MAY-21
Vanadium (V)-Dissolved			103.9		%		70-130	04-MAY-21
Zinc (Zn)-Dissolved			92.2		%		70-130	04-MAY-21
PAH-511-WT								
	Water							
Batch	R5455570							
WG3532131-2 LCS								
1-Methylnaphthalene			84.1		%		50-140	11-MAY-21
2-Methylnaphthalene			80.0		%		50-140	11-MAY-21
Acenaphthene			92.3		%		50-140	11-MAY-21
Acenaphthylene			91.0		%		50-140	11-MAY-21
Anthracene			95.1		%		50-140	11-MAY-21
Benzo(a)anthracene			96.2		%		50-140	11-MAY-21
Benzo(a)pyrene			92.9		%		50-140	11-MAY-21
Benzo(b&j)fluoranthene			91.8		%		50-140	11-MAY-21
Benzo(g,h,i)perylene			116.3		%		50-140	11-MAY-21
Benzo(k)fluoranthene			92.5		%		50-140	11-MAY-21
Chrysene			94.2		%		50-140	11-MAY-21
Dibenz(a,h)anthracene			99.1		%		50-140	11-MAY-21
Fluoranthene			97.8		%		50-140	11-MAY-21
Fluorene			93.6		%		50-140	11-MAY-21
Indeno(1,2,3-cd)pyrene			115.5		%		50-140	11-MAY-21
Naphthalene			86.9		%		50-140	11-MAY-21
Phenanthrene			99.0		%		50-140	11-MAY-21
Pyrene			95.0		%		50-140	11-MAY-21
WG3532131-1 MB								
1-Methylnaphthalene			<0.020		ug/L		0.02	11-MAY-21
2-Methylnaphthalene			<0.020		ug/L		0.02	11-MAY-21
Acenaphthene			<0.020		ug/L		0.02	11-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 6 of 17

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT		Water						
Batch	R5455570							
WG3532131-1	MB							
Acenaphthylene			<0.020		ug/L		0.02	11-MAY-21
Anthracene			<0.020		ug/L		0.02	11-MAY-21
Benzo(a)anthracene			<0.020		ug/L		0.02	11-MAY-21
Benzo(a)pyrene			<0.010		ug/L		0.01	11-MAY-21
Benzo(b&j)fluoranthene			<0.020		ug/L		0.02	11-MAY-21
Benzo(g,h,i)perylene			<0.020		ug/L		0.02	11-MAY-21
Benzo(k)fluoranthene			<0.020		ug/L		0.02	11-MAY-21
Chrysene			<0.020		ug/L		0.02	11-MAY-21
Dibenz(a,h)anthracene			<0.020		ug/L		0.02	11-MAY-21
Fluoranthene			<0.020		ug/L		0.02	11-MAY-21
Fluorene			<0.020		ug/L		0.02	11-MAY-21
Indeno(1,2,3-cd)pyrene			<0.020		ug/L		0.02	11-MAY-21
Naphthalene			<0.050		ug/L		0.05	11-MAY-21
Phenanthrene			<0.020		ug/L		0.02	11-MAY-21
Pyrene			<0.020		ug/L		0.02	11-MAY-21
Surrogate: Naphthalene d8			99.9		%		60-140	11-MAY-21
Surrogate: Phenanthrene d10			96.4		%		60-140	11-MAY-21
PH-WT		Water						
Batch	R5455110							
WG3530200-4	DUP	WG3530200-3						
pH		7.86	7.79	J	pH units	0.07	0.2	06-MAY-21
WG3530200-2	LCS							
pH			7.01		pH units		6.9-7.1	06-MAY-21
VOC-511-HS-WT		Water						
Batch	R5455351							
WG3531645-4	DUP	WG3531645-3						
1,1,1,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1,2,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1,1-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1,2-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,2-Dibromoethane		<0.20	<0.20	RPD-NA	ug/L	N/A	30	11-MAY-21
1,2-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 7 of 17

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5455351							
WG3531645-4	DUP	WG3531645-3						
1,2-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,2-Dichloropropane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,3-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,4-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Acetone		<30	<30	RPD-NA	ug/L	N/A	30	11-MAY-21
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Bromodichloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Bromoform		<5.0	<5.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Bromomethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Carbon tetrachloride		<0.20	<0.20	RPD-NA	ug/L	N/A	30	11-MAY-21
Chlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Chloroform		<1.0	<1.0	RPD-NA	ug/L	N/A	30	11-MAY-21
cis-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
cis-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	11-MAY-21
Dibromochloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Dichlorodifluoromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
n-Hexane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	11-MAY-21
Methyl Ethyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	11-MAY-21
Methyl Isobutyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	11-MAY-21
Methylene Chloride		<5.0	<5.0	RPD-NA	ug/L	N/A	30	11-MAY-21
MTBE		<2.0	<2.0	RPD-NA	ug/L	N/A	30	11-MAY-21
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	11-MAY-21
Styrene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Tetrachloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
trans-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
trans-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	11-MAY-21
Trichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Trichlorofluoromethane		<5.0	<5.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Vinyl chloride		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
WG3531645-1	LCS							



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 8 of 17

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5455351							
WG3531645-1	LCS							
1,1,1,2-Tetrachloroethane			111.6		%		70-130	10-MAY-21
1,1,2,2-Tetrachloroethane			123.5		%		70-130	10-MAY-21
1,1,1-Trichloroethane			106.4		%		70-130	10-MAY-21
1,1,2-Trichloroethane			106.2		%		70-130	10-MAY-21
1,1-Dichloroethane			106.8		%		70-130	10-MAY-21
1,1-Dichloroethylene			108.4		%		70-130	10-MAY-21
1,2-Dibromoethane			104.9		%		70-130	10-MAY-21
1,2-Dichlorobenzene			101.7		%		70-130	10-MAY-21
1,2-Dichloroethane			100.9		%		70-130	10-MAY-21
1,2-Dichloropropane			104.1		%		70-130	10-MAY-21
1,3-Dichlorobenzene			101.4		%		70-130	10-MAY-21
1,4-Dichlorobenzene			103.3		%		70-130	10-MAY-21
Acetone			112.1		%		60-140	10-MAY-21
Benzene			103.3		%		70-130	10-MAY-21
Bromodichloromethane			111.2		%		70-130	10-MAY-21
Bromoform			131.4	MES	%		70-130	10-MAY-21
Bromomethane			103.1		%		60-140	10-MAY-21
Carbon tetrachloride			109.1		%		70-130	10-MAY-21
Chlorobenzene			101.8		%		70-130	10-MAY-21
Chloroform			109.7		%		70-130	10-MAY-21
cis-1,2-Dichloroethylene			108.8		%		70-130	10-MAY-21
cis-1,3-Dichloropropene			101.4		%		70-130	10-MAY-21
Dibromochloromethane			109.1		%		70-130	10-MAY-21
Dichlorodifluoromethane			102.2		%		50-140	10-MAY-21
Ethylbenzene			104.9		%		70-130	10-MAY-21
n-Hexane			104.8		%		70-130	10-MAY-21
m+p-Xylenes			100.6		%		70-130	10-MAY-21
Methyl Ethyl Ketone			104.9		%		60-140	10-MAY-21
Methyl Isobutyl Ketone			115.2		%		60-140	10-MAY-21
Methylene Chloride			108.0		%		70-130	10-MAY-21
MTBE			100.8		%		70-130	10-MAY-21
o-Xylene			114.3		%		70-130	10-MAY-21
Styrene			116.2		%		70-130	10-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 9 of 17

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5455351							
WG3531645-1	LCS							
Tetrachloroethylene			100.1		%		70-130	10-MAY-21
Toluene			102.7		%		70-130	10-MAY-21
trans-1,2-Dichloroethylene			106.8		%		70-130	10-MAY-21
trans-1,3-Dichloropropene			100.1		%		70-130	10-MAY-21
Trichloroethylene			101.2		%		70-130	10-MAY-21
Trichlorofluoromethane			109.4		%		60-140	10-MAY-21
Vinyl chloride			114.4		%		60-140	10-MAY-21
WG3531645-2	MB							
1,1,1,2-Tetrachloroethane			<0.50		ug/L		0.5	10-MAY-21
1,1,2,2-Tetrachloroethane			<0.50		ug/L		0.5	10-MAY-21
1,1,1-Trichloroethane			<0.50		ug/L		0.5	10-MAY-21
1,1,2-Trichloroethane			<0.50		ug/L		0.5	10-MAY-21
1,1-Dichloroethane			<0.50		ug/L		0.5	10-MAY-21
1,1-Dichloroethylene			<0.50		ug/L		0.5	10-MAY-21
1,2-Dibromoethane			<0.20		ug/L		0.2	10-MAY-21
1,2-Dichlorobenzene			<0.50		ug/L		0.5	10-MAY-21
1,2-Dichloroethane			<0.50		ug/L		0.5	10-MAY-21
1,2-Dichloropropane			<0.50		ug/L		0.5	10-MAY-21
1,3-Dichlorobenzene			<0.50		ug/L		0.5	10-MAY-21
1,4-Dichlorobenzene			<0.50		ug/L		0.5	10-MAY-21
Acetone			<30		ug/L		30	10-MAY-21
Benzene			<0.50		ug/L		0.5	10-MAY-21
Bromodichloromethane			<2.0		ug/L		2	10-MAY-21
Bromoform			<5.0		ug/L		5	10-MAY-21
Bromomethane			<0.50		ug/L		0.5	10-MAY-21
Carbon tetrachloride			<0.20		ug/L		0.2	10-MAY-21
Chlorobenzene			<0.50		ug/L		0.5	10-MAY-21
Chloroform			<1.0		ug/L		1	10-MAY-21
cis-1,2-Dichloroethylene			<0.50		ug/L		0.5	10-MAY-21
cis-1,3-Dichloropropene			<0.30		ug/L		0.3	10-MAY-21
Dibromochloromethane			<2.0		ug/L		2	10-MAY-21
Dichlorodifluoromethane			<2.0		ug/L		2	10-MAY-21
Ethylbenzene			<0.50		ug/L		0.5	10-MAY-21
n-Hexane			<0.50		ug/L		0.5	10-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 10 of 17

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5455351							
WG3531645-2 MB								
m+p-Xylenes			<0.40		ug/L		0.4	10-MAY-21
Methyl Ethyl Ketone			<20		ug/L		20	10-MAY-21
Methyl Isobutyl Ketone			<20		ug/L		20	10-MAY-21
Methylene Chloride			<5.0		ug/L		5	10-MAY-21
MTBE			<2.0		ug/L		2	10-MAY-21
o-Xylene			<0.30		ug/L		0.3	10-MAY-21
Styrene			<0.50		ug/L		0.5	10-MAY-21
Tetrachloroethylene			<0.50		ug/L		0.5	10-MAY-21
Toluene			<0.50		ug/L		0.5	10-MAY-21
trans-1,2-Dichloroethylene			<0.50		ug/L		0.5	10-MAY-21
trans-1,3-Dichloropropene			<0.30		ug/L		0.3	10-MAY-21
Trichloroethylene			<0.50		ug/L		0.5	10-MAY-21
Trichlorofluoromethane			<5.0		ug/L		5	10-MAY-21
Vinyl chloride			<0.50		ug/L		0.5	10-MAY-21
Surrogate: 1,4-Difluorobenzene			99.8		%		70-130	10-MAY-21
Surrogate: 4-Bromofluorobenzene			110.5		%		70-130	10-MAY-21
WG3531645-5 MS		WG3531645-3						
1,1,1,2-Tetrachloroethane			97.8		%		50-140	11-MAY-21
1,1,2,2-Tetrachloroethane			100.7		%		50-140	11-MAY-21
1,1,1-Trichloroethane			94.6		%		50-140	11-MAY-21
1,1,2-Trichloroethane			94.4		%		50-140	11-MAY-21
1,1-Dichloroethane			95.2		%		50-140	11-MAY-21
1,1-Dichloroethylene			96.8		%		50-140	11-MAY-21
1,2-Dibromoethane			94.9		%		50-140	11-MAY-21
1,2-Dichlorobenzene			92.3		%		50-140	11-MAY-21
1,2-Dichloroethane			90.1		%		50-140	11-MAY-21
1,2-Dichloropropane			92.6		%		50-140	11-MAY-21
1,3-Dichlorobenzene			92.7		%		50-140	11-MAY-21
1,4-Dichlorobenzene			93.0		%		50-140	11-MAY-21
Acetone			97.5		%		50-140	11-MAY-21
Benzene			91.6		%		50-140	11-MAY-21
Bromodichloromethane			98.8		%		50-140	11-MAY-21
Bromoform			105.3		%		50-140	11-MAY-21
Bromomethane			91.6		%		50-140	11-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 11 of 17

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5455351							
WG3531645-5 MS		WG3531645-3						
Carbon tetrachloride			97.3		%		50-140	11-MAY-21
Chlorobenzene			91.7		%		50-140	11-MAY-21
Chloroform			98.1		%		50-140	11-MAY-21
cis-1,2-Dichloroethylene			97.1		%		50-140	11-MAY-21
cis-1,3-Dichloropropene			90.5		%		50-140	11-MAY-21
Dibromochloromethane			96.1		%		50-140	11-MAY-21
Dichlorodifluoromethane			101.1		%		50-140	11-MAY-21
Ethylbenzene			93.9		%		50-140	11-MAY-21
n-Hexane			92.0		%		50-140	11-MAY-21
m+p-Xylenes			90.4		%		50-140	11-MAY-21
Methyl Ethyl Ketone			90.6		%		50-140	11-MAY-21
Methyl Isobutyl Ketone			97.2		%		50-140	11-MAY-21
Methylene Chloride			95.9		%		50-140	11-MAY-21
MTBE			93.8		%		50-140	11-MAY-21
o-Xylene			101.7		%		50-140	11-MAY-21
Styrene			100.5		%		50-140	11-MAY-21
Tetrachloroethylene			92.7		%		50-140	11-MAY-21
Toluene			93.7		%		50-140	11-MAY-21
trans-1,2-Dichloroethylene			95.6		%		50-140	11-MAY-21
trans-1,3-Dichloropropene			89.8		%		50-140	11-MAY-21
Trichloroethylene			90.8		%		50-140	11-MAY-21
Trichlorofluoromethane			98.4		%		50-140	11-MAY-21
Vinyl chloride			103.8		%		50-140	11-MAY-21
Batch	R5455648							
WG3532222-4 DUP		WG3532222-3						
1,1,1,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1,2,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1,1-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1,2-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,1-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,2-Dibromoethane		<0.20	<0.20	RPD-NA	ug/L	N/A	30	11-MAY-21
1,2-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 12 of 17

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5455648							
WG3532222-4	DUP	WG3532222-3						
1,2-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,2-Dichloropropane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,3-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
1,4-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Acetone		<30	<30	RPD-NA	ug/L	N/A	30	11-MAY-21
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Bromodichloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Bromoform		<5.0	<5.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Bromomethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Carbon tetrachloride		<0.20	<0.20	RPD-NA	ug/L	N/A	30	11-MAY-21
Chlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Chloroform		<1.0	<1.0	RPD-NA	ug/L	N/A	30	11-MAY-21
cis-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
cis-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	11-MAY-21
Dibromochloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Dichlorodifluoromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
n-Hexane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	11-MAY-21
Methyl Ethyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	11-MAY-21
Methyl Isobutyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	11-MAY-21
Methylene Chloride		<5.0	<5.0	RPD-NA	ug/L	N/A	30	11-MAY-21
MTBE		<2.0	<2.0	RPD-NA	ug/L	N/A	30	11-MAY-21
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	11-MAY-21
Styrene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Tetrachloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
trans-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
trans-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	11-MAY-21
Trichloroethylene		0.55	0.59		ug/L	7.0	30	11-MAY-21
Trichlorofluoromethane		<5.0	<5.0	RPD-NA	ug/L	N/A	30	11-MAY-21
Vinyl chloride		<0.50	<0.50	RPD-NA	ug/L	N/A	30	11-MAY-21
WG3532222-1	LCS							



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 13 of 17

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5455648							
WG3532222-1	LCS							
1,1,1,2-Tetrachloroethane			95.6		%		70-130	11-MAY-21
1,1,2,2-Tetrachloroethane			91.9		%		70-130	11-MAY-21
1,1,1-Trichloroethane			94.0		%		70-130	11-MAY-21
1,1,2-Trichloroethane			91.9		%		70-130	11-MAY-21
1,1-Dichloroethane			90.2		%		70-130	11-MAY-21
1,1-Dichloroethylene			97.1		%		70-130	11-MAY-21
1,2-Dibromoethane			89.9		%		70-130	11-MAY-21
1,2-Dichlorobenzene			98.6		%		70-130	11-MAY-21
1,2-Dichloroethane			91.0		%		70-130	11-MAY-21
1,2-Dichloropropane			96.9		%		70-130	11-MAY-21
1,3-Dichlorobenzene			104.0		%		70-130	11-MAY-21
1,4-Dichlorobenzene			104.0		%		70-130	11-MAY-21
Acetone			92.5		%		60-140	11-MAY-21
Benzene			94.0		%		70-130	11-MAY-21
Bromodichloromethane			99.0		%		70-130	11-MAY-21
Bromoform			102.3		%		70-130	11-MAY-21
Bromomethane			94.2		%		60-140	11-MAY-21
Carbon tetrachloride			97.0		%		70-130	11-MAY-21
Chlorobenzene			95.6		%		70-130	11-MAY-21
Chloroform			97.6		%		70-130	11-MAY-21
cis-1,2-Dichloroethylene			99.2		%		70-130	11-MAY-21
cis-1,3-Dichloropropene			104.5		%		70-130	11-MAY-21
Dibromochloromethane			88.4		%		70-130	11-MAY-21
Dichlorodifluoromethane			91.4		%		50-140	11-MAY-21
Ethylbenzene			96.2		%		70-130	11-MAY-21
n-Hexane			94.5		%		70-130	11-MAY-21
m+p-Xylenes			100.1		%		70-130	11-MAY-21
Methyl Ethyl Ketone			85.1		%		60-140	11-MAY-21
Methyl Isobutyl Ketone			78.2		%		60-140	11-MAY-21
Methylene Chloride			98.0		%		70-130	11-MAY-21
MTBE			94.3		%		70-130	11-MAY-21
o-Xylene			105.4		%		70-130	11-MAY-21
Styrene			100.6		%		70-130	11-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 14 of 17

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT		Water						
Batch	R5455648							
WG3532222-1	LCS							
Tetrachloroethylene			96.5		%		70-130	11-MAY-21
Toluene			94.0		%		70-130	11-MAY-21
trans-1,2-Dichloroethylene			99.7		%		70-130	11-MAY-21
trans-1,3-Dichloropropene			99.3		%		70-130	11-MAY-21
Trichloroethylene			97.1		%		70-130	11-MAY-21
Trichlorofluoromethane			96.5		%		60-140	11-MAY-21
Vinyl chloride			101.7		%		60-140	11-MAY-21
WG3532222-2	MB							
1,1,1,2-Tetrachloroethane			<0.50		ug/L		0.5	11-MAY-21
1,1,2,2-Tetrachloroethane			<0.50		ug/L		0.5	11-MAY-21
1,1,1-Trichloroethane			<0.50		ug/L		0.5	11-MAY-21
1,1,2-Trichloroethane			<0.50		ug/L		0.5	11-MAY-21
1,1-Dichloroethane			<0.50		ug/L		0.5	11-MAY-21
1,1-Dichloroethylene			<0.50		ug/L		0.5	11-MAY-21
1,2-Dibromoethane			<0.20		ug/L		0.2	11-MAY-21
1,2-Dichlorobenzene			<0.50		ug/L		0.5	11-MAY-21
1,2-Dichloroethane			<0.50		ug/L		0.5	11-MAY-21
1,2-Dichloropropane			<0.50		ug/L		0.5	11-MAY-21
1,3-Dichlorobenzene			<0.50		ug/L		0.5	11-MAY-21
1,4-Dichlorobenzene			<0.50		ug/L		0.5	11-MAY-21
Acetone			<30		ug/L		30	11-MAY-21
Benzene			<0.50		ug/L		0.5	11-MAY-21
Bromodichloromethane			<2.0		ug/L		2	11-MAY-21
Bromoform			<5.0		ug/L		5	11-MAY-21
Bromomethane			<0.50		ug/L		0.5	11-MAY-21
Carbon tetrachloride			<0.20		ug/L		0.2	11-MAY-21
Chlorobenzene			<0.50		ug/L		0.5	11-MAY-21
Chloroform			<1.0		ug/L		1	11-MAY-21
cis-1,2-Dichloroethylene			<0.50		ug/L		0.5	11-MAY-21
cis-1,3-Dichloropropene			<0.30		ug/L		0.3	11-MAY-21
Dibromochloromethane			<2.0		ug/L		2	11-MAY-21
Dichlorodifluoromethane			<2.0		ug/L		2	11-MAY-21
Ethylbenzene			<0.50		ug/L		0.5	11-MAY-21
n-Hexane			<0.50		ug/L		0.5	11-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 15 of 17

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5455648							
WG3532222-2 MB								
m+p-Xylenes			<0.40		ug/L		0.4	11-MAY-21
Methyl Ethyl Ketone			<20		ug/L		20	11-MAY-21
Methyl Isobutyl Ketone			<20		ug/L		20	11-MAY-21
Methylene Chloride			<5.0		ug/L		5	11-MAY-21
MTBE			<2.0		ug/L		2	11-MAY-21
o-Xylene			<0.30		ug/L		0.3	11-MAY-21
Styrene			<0.50		ug/L		0.5	11-MAY-21
Tetrachloroethylene			<0.50		ug/L		0.5	11-MAY-21
Toluene			<0.50		ug/L		0.5	11-MAY-21
trans-1,2-Dichloroethylene			<0.50		ug/L		0.5	11-MAY-21
trans-1,3-Dichloropropene			<0.30		ug/L		0.3	11-MAY-21
Trichloroethylene			<0.50		ug/L		0.5	11-MAY-21
Trichlorofluoromethane			<5.0		ug/L		5	11-MAY-21
Vinyl chloride			<0.50		ug/L		0.5	11-MAY-21
Surrogate: 1,4-Difluorobenzene			100.8		%		70-130	11-MAY-21
Surrogate: 4-Bromofluorobenzene			100.0		%		70-130	11-MAY-21
WG3532222-5 MS		L2583105-1						
1,1,1,2-Tetrachloroethane			86.8		%		50-140	11-MAY-21
1,1,2,2-Tetrachloroethane			82.9		%		50-140	11-MAY-21
1,1,1-Trichloroethane			87.0		%		50-140	11-MAY-21
1,1,2-Trichloroethane			87.2		%		50-140	11-MAY-21
1,1-Dichloroethane			87.4		%		50-140	11-MAY-21
1,1-Dichloroethylene			85.7		%		50-140	11-MAY-21
1,2-Dibromoethane			85.9		%		50-140	11-MAY-21
1,2-Dichlorobenzene			91.7		%		50-140	11-MAY-21
1,2-Dichloroethane			87.6		%		50-140	11-MAY-21
1,2-Dichloropropane			89.8		%		50-140	11-MAY-21
1,3-Dichlorobenzene			98.1		%		50-140	11-MAY-21
1,4-Dichlorobenzene			96.3		%		50-140	11-MAY-21
Acetone			98.1		%		50-140	11-MAY-21
Benzene			85.9		%		50-140	11-MAY-21
Bromodichloromethane			91.6		%		50-140	11-MAY-21
Bromoform			95.7		%		50-140	11-MAY-21
Bromomethane			80.6		%		50-140	11-MAY-21



Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Page 16 of 17

Client: DS Consultants (Cambridge)
 380 Jamieson Parkway Unit 6
 Cambridge ON N3C 4N4

Contact: KEITH CLARKE

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT								
	Water							
Batch	R5455648							
WG3532222-5 MS		L2583105-1						
Carbon tetrachloride			87.0		%		50-140	11-MAY-21
Chlorobenzene			87.9		%		50-140	11-MAY-21
Chloroform			89.3		%		50-140	11-MAY-21
cis-1,2-Dichloroethylene			90.7		%		50-140	11-MAY-21
cis-1,3-Dichloropropene			92.6		%		50-140	11-MAY-21
Dibromochloromethane			83.2		%		50-140	11-MAY-21
Dichlorodifluoromethane			73.8		%		50-140	11-MAY-21
Ethylbenzene			86.4		%		50-140	11-MAY-21
n-Hexane			82.0		%		50-140	11-MAY-21
m+p-Xylenes			86.3		%		50-140	11-MAY-21
Methyl Ethyl Ketone			96.4		%		50-140	11-MAY-21
Methyl Isobutyl Ketone			89.0		%		50-140	11-MAY-21
Methylene Chloride			89.7		%		50-140	11-MAY-21
MTBE			89.1		%		50-140	11-MAY-21
o-Xylene			95.5		%		50-140	11-MAY-21
Styrene			91.1		%		50-140	11-MAY-21
Tetrachloroethylene			84.5		%		50-140	11-MAY-21
Toluene			86.0		%		50-140	11-MAY-21
trans-1,2-Dichloroethylene			88.0		%		50-140	11-MAY-21
trans-1,3-Dichloropropene			88.4		%		50-140	11-MAY-21
Trichloroethylene			87.1		%		50-140	11-MAY-21
Trichlorofluoromethane			84.1		%		50-140	11-MAY-21
Vinyl chloride			87.0		%		50-140	11-MAY-21

Quality Control Report

Workorder: L2582823

Report Date: 13-MAY-21

Client: DS Consultants (Cambridge)
380 Jamieson Parkway Unit 6
Cambridge ON N3C 4N4

Page 17 of 17

Contact: KEITH CLARKE

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.
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).
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.

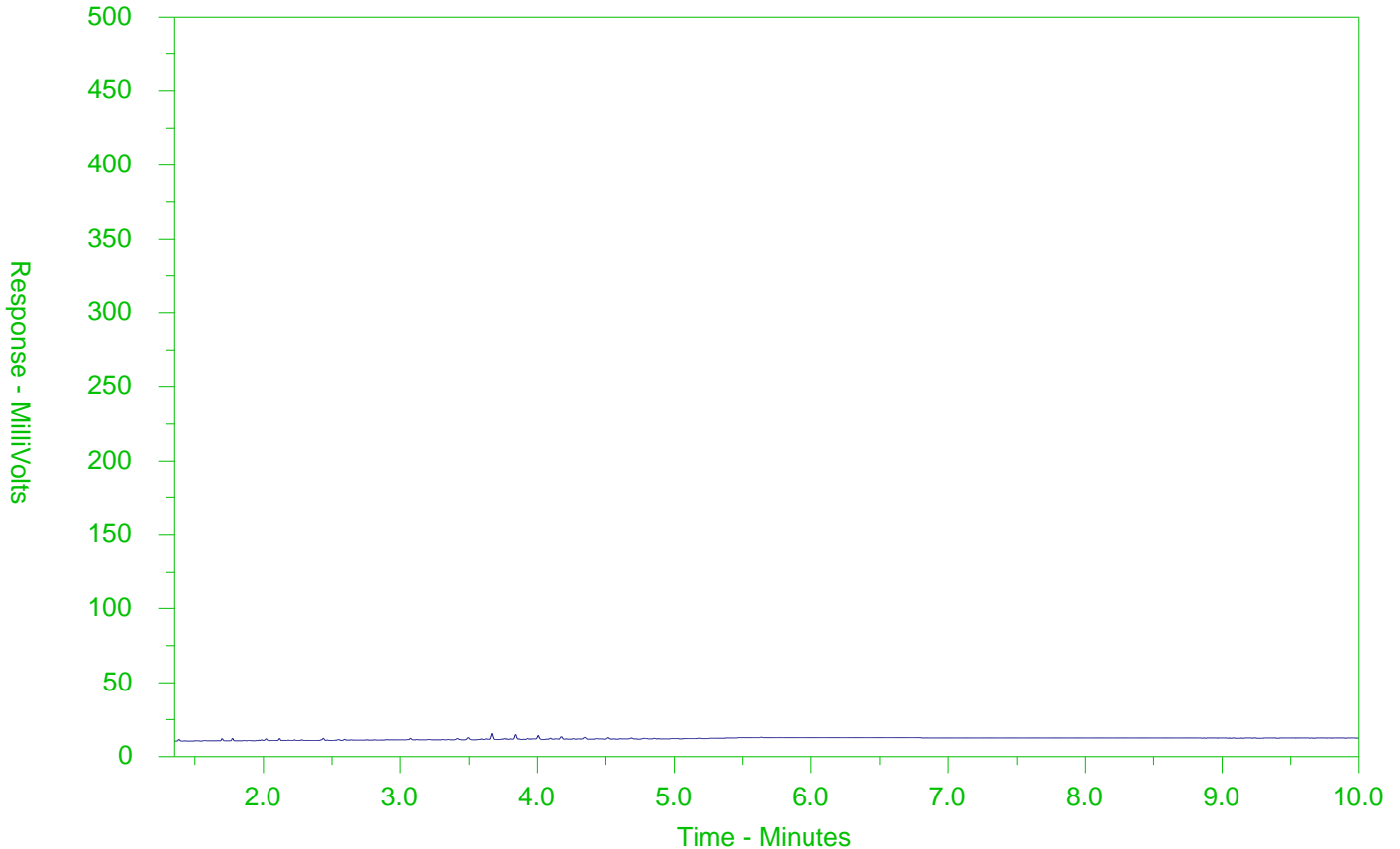
The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT



ALS Sample ID: L2582823-1
 Client Sample ID: MW21-11



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

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

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

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

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

